

TS45 SWING-AWAY BIN FILL CONVEYOR PTO DRIVE

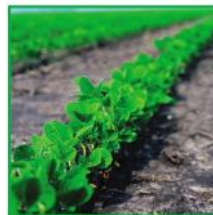


OPERATOR'S MANUAL

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INTRODUCTION

Thank you for choosing USC LLC for your equipment needs. We appreciate your business and will work diligently to ensure that you are satisfied with your choice.

OVERVIEW

The purpose of this manual is to provide you with the basic information needed to operate and maintain the Tube Series 3500 Bin Fill Conveyor. It does not hold USC LLC liable for any accidents or injuries that may occur.

The technical information provided in this document is based on extensive testing under controlled conditions at the USC research and development facility. This information is given without guarantee as the conditions of operation and storage of the equipment are beyond our control. Variables such as temperature, humidity, viscosity of chemical products and changes in seed size or variety may all effect the accuracy of application and seed coverage. Periodically check the equipment calibration while treating and make adjustments as required. This will insure the optimum seed coverage.

RECEIVING YOUR EQUIPMENT

As soon as the equipment is received, it should be carefully inspected to make certain that it has sustained no damage during shipment and that all items listed on the packing list are accounted for. If there is any damage or shortages, the purchaser must immediately notify USC LLC. Ownership passes to purchaser when the unit leaves the USC LLC premises. The purchaser is responsible for unloading and mounting all components of the equipment.

Document the serial number of the machine for future reference. The serial number is located on the right side of the conveyor near the inlet hopper.



SERIAL NUMBER: _____

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SECTION A

SAFETY INSTRUCTIONS

Every year accidents in the work place maim, kill and injure people. Although it may be impossible to prevent all accidents, with the right combination of training, operating practices, safety devices, and operator vigilance, the number of accidents can be significantly reduced. The purpose of this section is to educate equipment users about hazards, unsafe practices, and recommended hazard avoidance techniques.

If any of the required regularly scheduled maintenance is located above the reach of the operator, they should follow the companies normal safe practices of reaching that particular height, utilizing the companies specified equipment and following normal safety precautions.

When working with treatment chemicals, operators should always wear protective gloves, safety glasses, and follow the companies safety precautions in the case of any spillage or operator contamination.

SAFETY WORDS AND SYMBOLS

It is very important that operators and maintenance personnel understand the words and symbols that are used to communicate safety information. Safety words, their meaning and format, have been standardized for U.S. manufacturers and published by the American National Standards Institute (ANSI). The European Community (E.C.) has adopted a different format based on the International Standards Organization (I.S.O.) and applicable machinery directives. Both formats are presented below. Graphic symbols are not standardized, but most manufacturers will use some variation of the ones seen in this manual.



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



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



Indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury and/or property damage.



Provides additional information that the operator needs to be aware of to avoid a potentially hazardous situation.



Mandatory Lockout Power Symbol. Disconnect, lockout and tagout electrical and other energy sources before inspecting, cleaning or performing maintenance on this panel.



International Safety Alert Symbol. The exclamation point (!) surrounded by a yellow triangle indicates that an injury hazard exists. However, it does not indicate the seriousness of potential injury. The exclamation point (!) is also used with the DANGER, WARNING and CAUTION symbols so the potential injury is indicated.



Electrocution Hazard Symbol. This symbol indicates that an electrocution hazard exists. Serious injury or death could result from contacting high voltage.



International Electrocution Hazard. This symbol indicates that an electrocution hazard exists. Serious injury or death could result from contacting high voltage.



Mandatory Read Manual Action Symbol. (I.S.O. format) This symbol instructs personnel to read the Operators Manual before servicing or operating the equipment.



Mandatory Read Manual Action Symbol. This symbol instructs personnel to read the Operators Manual before servicing or operating the equipment.

Notice is used to notify people of important installation, operation or maintenance information which is not hazard related.

NOTICE

LOCKOUT / TAGOUT PROCEDURES

Lockout/Tagout is the placement of a lock/tag on an energy isolating device in accordance with an established procedure. When taking equipment out of service to perform maintenance or repair work, always follow the lockout/tagout procedures as outlined in OSHA Standard 1910.147. This standard “requires employers to establish a program and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices and to otherwise disable machines or equipment to prevent unexpected energizing, start-up, or release of stored energy in order to prevent injury to employees.”

CONTROLLED STOP

This is the stopping of machine motion by reducing the electrical command signal to 0 (zero) once the stop signal has been recognized.

HAZARD REVIEW



Electrocution Hazard

Electrocution accidents are most likely to occur during maintenance of the electrical system or when working on or near exposed high voltage wiring. This hazard does not exist when the electrical power has been disconnected, properly locked, and tagged out.



Automatic Start Hazard

The equipment may be controlled by an automated system and may start without warning. Failure to properly disconnect, lockout, and tagout all energy sources of remotely controlled equipment creates a very hazardous situation and could cause injury or even death. PLEASE STAY CLEAR AND BE ALERT.

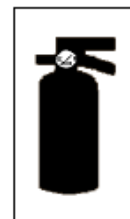
YOU are responsible for the **SAFE** operation and maintenance of your USC LLC equipment . **YOU** must ensure that you and anyone else who is going to operate, maintain or work around the equipment be familiar with the operating and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alert you to good safety practices that should be adhered to while operating the equipment

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Equipment owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.
- The most important safety device on this equipment is a **SAFE** operator. It is the operator's responsibility to read and understand **ALL** Safety and Operating instructions in the manual and to follow them. All accidents can be avoided.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

GENERAL SAFETY

1. Only trained persons shall operate the equipment . An untrained operator is not qualified to operate the machine.
2. Have a first-aid kit available for use should the need arise, and know how to use it.
3. Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
4. Do not allow children, spectators or bystanders within hazard area of machine.



5. Wear appropriate protective gear. This includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective goggles
- Heavy gloves
- Hearing protection
- Respirator or filter mask



6. Place all controls in neutral or off, stop motor, and wait for all moving parts to stop. Then disable power source before servicing, adjusting, repairing, or unplugging.



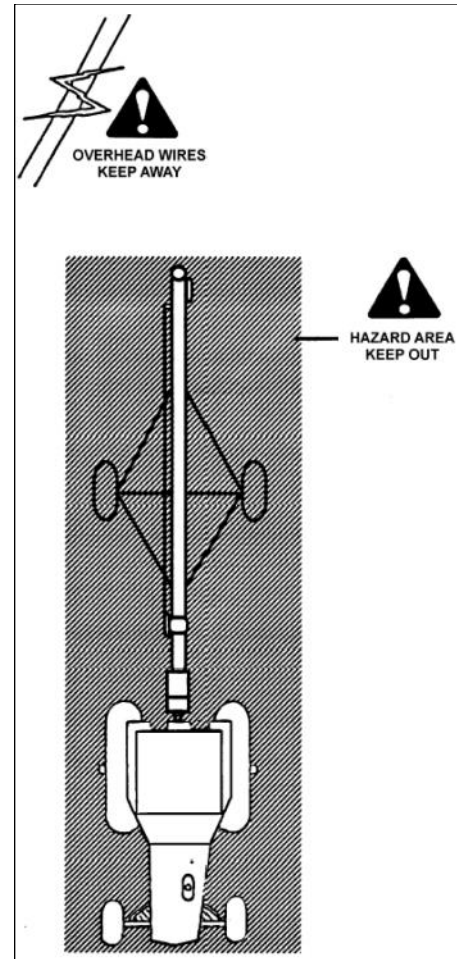
7. Review safety related items annually with all personnel who will be operating or maintaining the conveyor.

OPERATING SAFETY:

1. Read and understand the operator's manual and all safety signs before using.
2. Disconnect and disable electrical supply completely and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Clear the area of bystanders, especially children, before starting.
4. Be familiar with the machine hazard area. If anyone enters hazard area, shut down machine immediately. Clear the area before restarting.
5. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
6. Stay away from overhead obstructions and power lines during operation and transporting. Electrocutation can occur without direct contact.
7. Do not operate machine when any guards are removed.
8. Inspect welds and repair if needed.

TRANSPORT SAFETY

1. Read and understand ALL the information in the operator's manuals regarding procedures and SAFETY when moving or transporting the conveyor.
The conveyor should NEVER be transported with the axles in the extended position.
2. Check with local authorities regarding conveyor transport on public roads. Obey all applicable laws and regulations.
3. Always travel at a safe speed. Use caution when making corners or meeting traffic.
4. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.
5. Do not allow riders on the conveyor or the towing vehicle when transporting.
6. Attach conveyor to towing vehicle with a pin and retainer.
7. Lower conveyor to its lowest position for transporting. Keep lift point at drawbar height.
8. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
9. Do not exceed 25 m.p.h. (40 km/h). Reduce speed on rough roads and surfaces.
10. Stay away from overhead obstructions and power lines when transporting. Electrocutation can occur without direct contact.
11. Always use hazard warning flashers on tractor when transporting unless prohibited by law.





Before placement of the conveyor, be sure that ground is reasonably level. The conveyor may topple or work improperly if the ground is too uneven, damaging the equipment and/or causing personal injury.

PLACEMENT SAFETY

1. Move only with the appropriate equipment
2. Stay away from overhead power lines when moving the conveyor. Electrocutation can occur without direct contact.
3. Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
4. Operate the conveyor on level ground free of debris. Anchor the conveyor to prevent tipping or upending.

TIRE SAFETY

1. Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
2. Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
3. Have a qualified tire dealer or repair service perform required tire maintenance.
4. When replacing worn tires, make sure they meet the original tire specifications. Never undersize.

MAINTENANCE SAFETY

1. Review the operator's manual and all safety items before working with, maintaining or operating the equipment.
2. Place all controls in neutral or off, stop motors, disable power source, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Follow good shop practices:
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
4. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
5. Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
6. Before resuming work, install and secure all guards when maintenance work is completed.
7. Keep safety signs clean. Replace any sign that is damaged or not clearly visible.



SAFETY LABELS

1. Keep safety labels clean and legible at all times.
2. Replace safety labels that are missing or have become illegible.
3. Replaced parts that displayed a safety label should also display the current label.
4. Replacement safety labels are available. Contact your authorized dealer.

How to Install Safety Labels:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

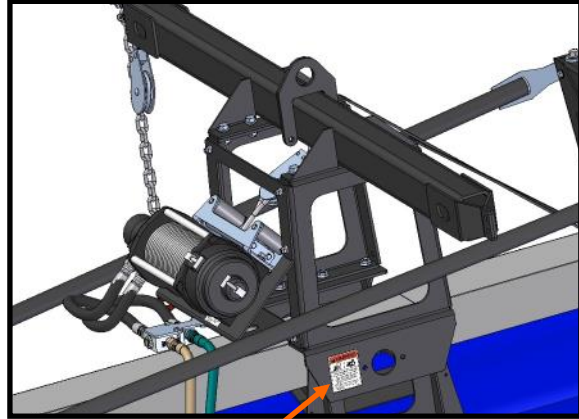
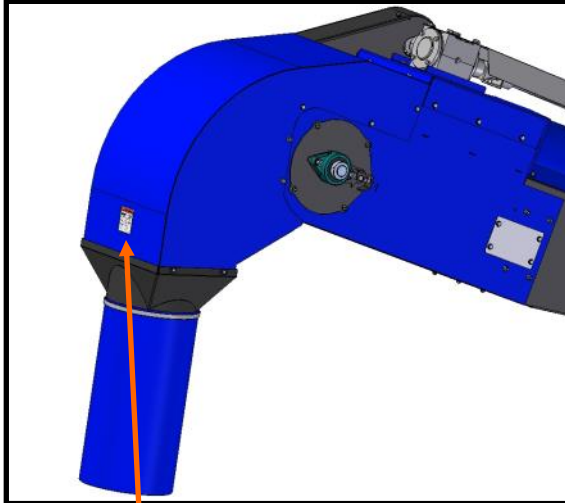


Located on the USC equipment you will find safety labels.
Always be sure to read and follow all directions on the labels.

Think **SAFETY!** Work **SAFELY!**

REMEMBER—If safety labels have been damaged, removed, become illegible, or parts replaced without safety labels, new labels must be applied. New safety labels are available from your authorized dealer.

TS45 Swing-Away Bin Fill Conveyor



WARNING

ROTATING PART HAZARD
To prevent serious injury or death from rotating parts:

1. Place all controls in neutral or off, stop engine or motor, remove ignition key or disable power source and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
2. Install and secure all guards before operating.
3. Do not operate with rotating parts exposed.
4. Keep hands, feet, hair, and clothing away from rotating parts.

09-02-0009

Part # 09-02-0009

WARNING

MOVING PART HAZARD
To prevent serious injury or death from falling:

1. Do not stand or climb on machine when operating. Keep others off.
2. Keep hands, feet, and hair away from moving parts.
3. Wear tight clothing and safety gear.

09-02-0011

Part # 09-02-0011

WARNING

Rotating parts can crush, cut and trap. Injury or death can result.

DO NOT operate without guards in place.

Keep hands, feet, hair and loose clothing away from rotating parts.

Lock-out power before servicing.

USC 785-431-7900 DC-2468

Part # 09-02-0029

DANGER

GUARD MISSING
Rotating parts can crush, cut and trap. Injury or death can result.

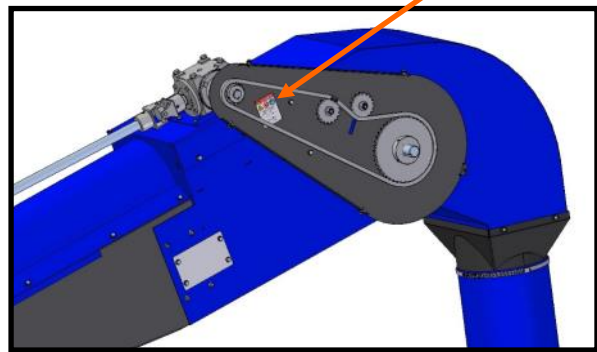
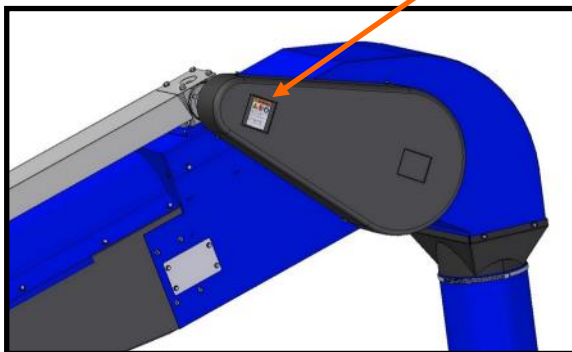
DO NOT operate without guards in place.

Keep hands, feet, hair and loose clothing away from rotating parts.

Lock-out power before servicing.

USC 785-431-7900 DC-2468

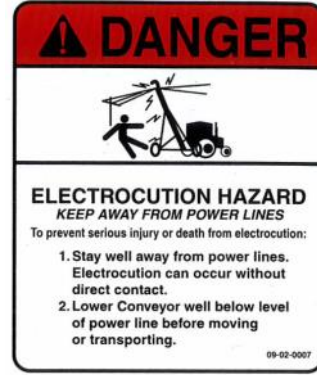
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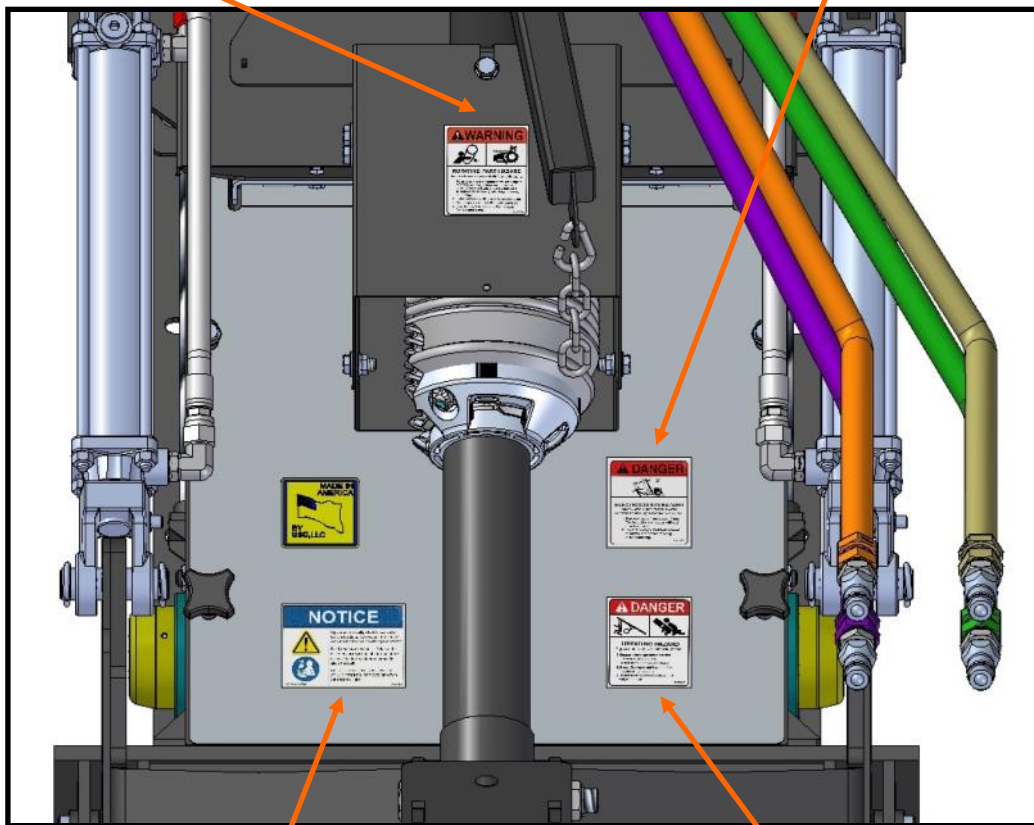
TS45 Swing-Away Bin Fill Conveyor



Part # 09-02-0009



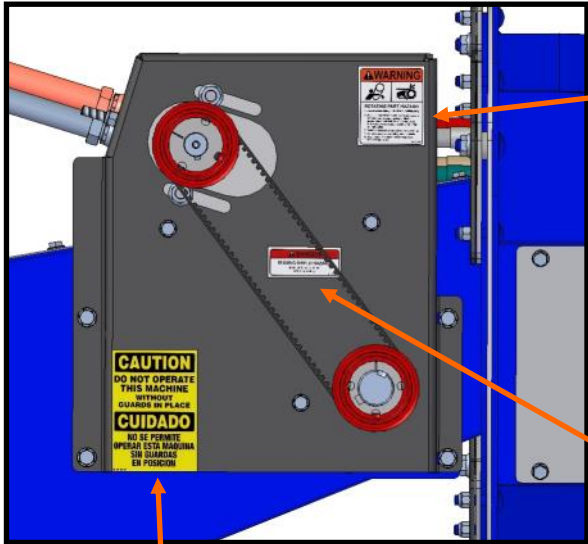
Part # 09-02-0007



Part # 09-02-0031



Part # 09-02-0008



Part # 09-02-0009



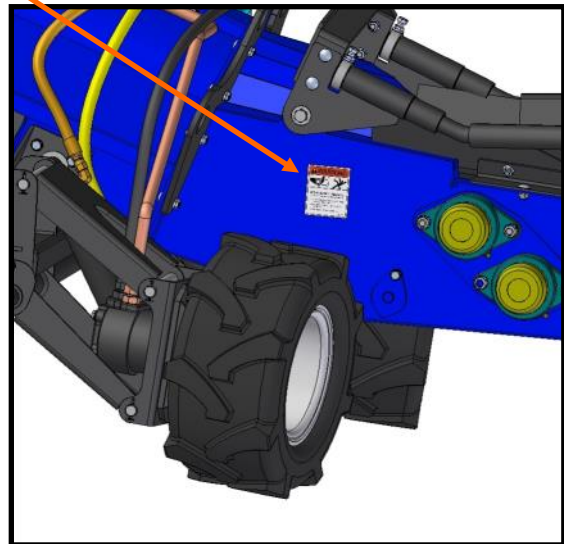
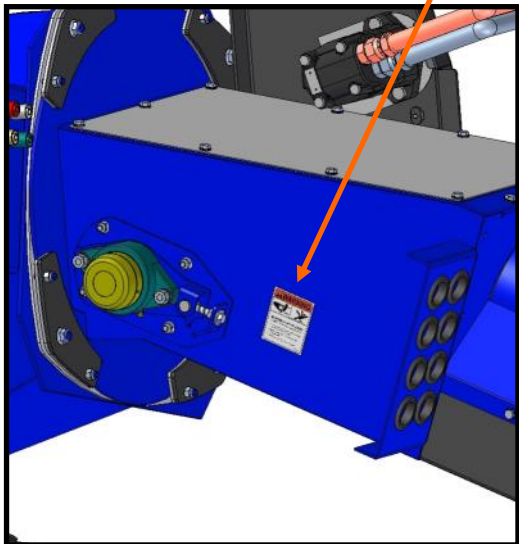
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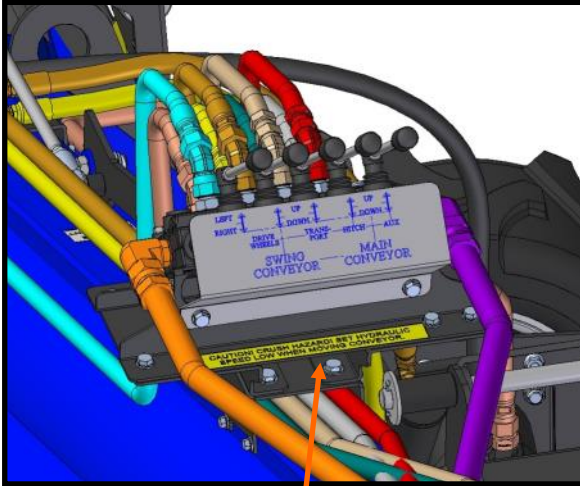
Part # 09-02-0002



Part # 09-02-0011

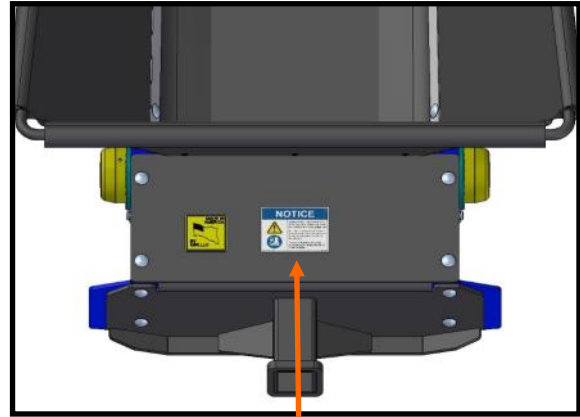


TS45 Swing-Away Bin Fill Conveyor



CAUTION! CRUSH HAZARD! SET HYDRAULIC SPEED LOW WHEN MOVING CONVEYOR.

Part # 09-02-0039

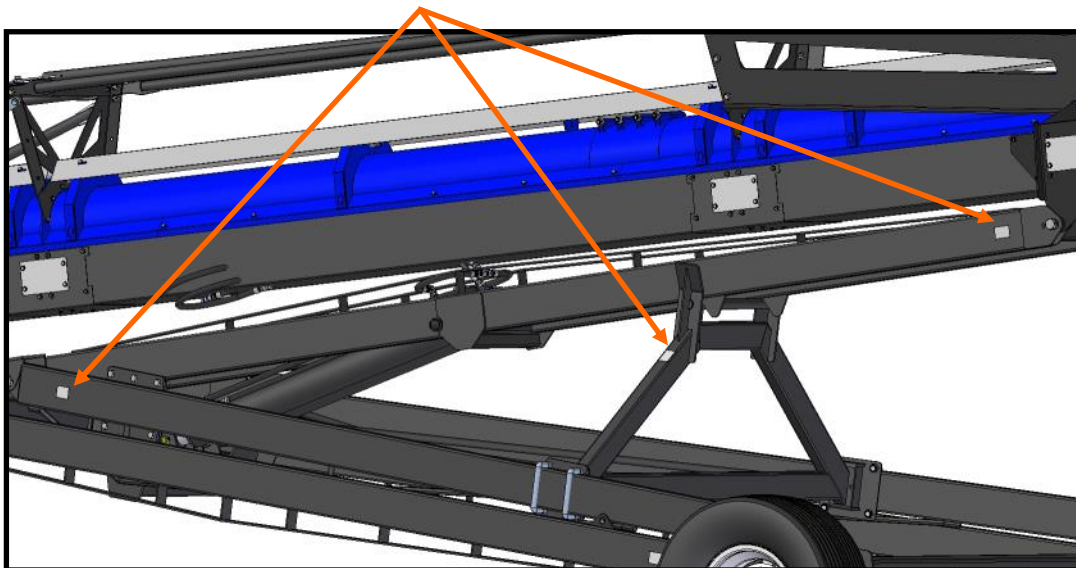


NOTICE	
 	<p>Operator must align belt of conveyor before loading. Conveyor must be run with no load when checking alignment.</p> <p>Read operator's manual. Refer to the maintenance section of the operator's manual for instructions to properly align the belt.</p> <p>FAILURE TO PROPERLY ALIGN BELT COULD RESULT IN PREMATURE WEAR OR BELT FAILURE.</p>
	<p><small>USG 789-431-7900 DC-2476</small></p>

Part # 09-02-0031



Part # 09-02-0015



MECHANICAL OPERATION

SECTION B



OPERATING SAFETY

1. Read and understand the Operator's Manual and all safety signs before using.
2. Electric motor drives: Disconnect and disable electrical supply completely and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Clear the area of bystanders, especially children, before starting.
4. Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
5. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
6. Do not allow riders on the Conveyor or transport vehicle when transporting.
7. Stay away from overhead obstructions and power lines during operation and transporting. Electro-cution can occur without direct contact.
8. Do not operate machine when any guards are removed.
9. Lower Conveyor to its lowest position before moving or transporting or when not in use.
10. Inspect lift cable before using Conveyor. Replace if frayed or damaged.
11. Make certain lift cable is properly seated in cable pulleys.
12. Be sure that conveyor is empty before raising or lowering.

The Bin Fill Conveyor is designed to efficiently move seed between a truck, trailer or wagon to a seed bin. All items except for main belt is hydraulically controlled. Hydraulics and is provided by customer.

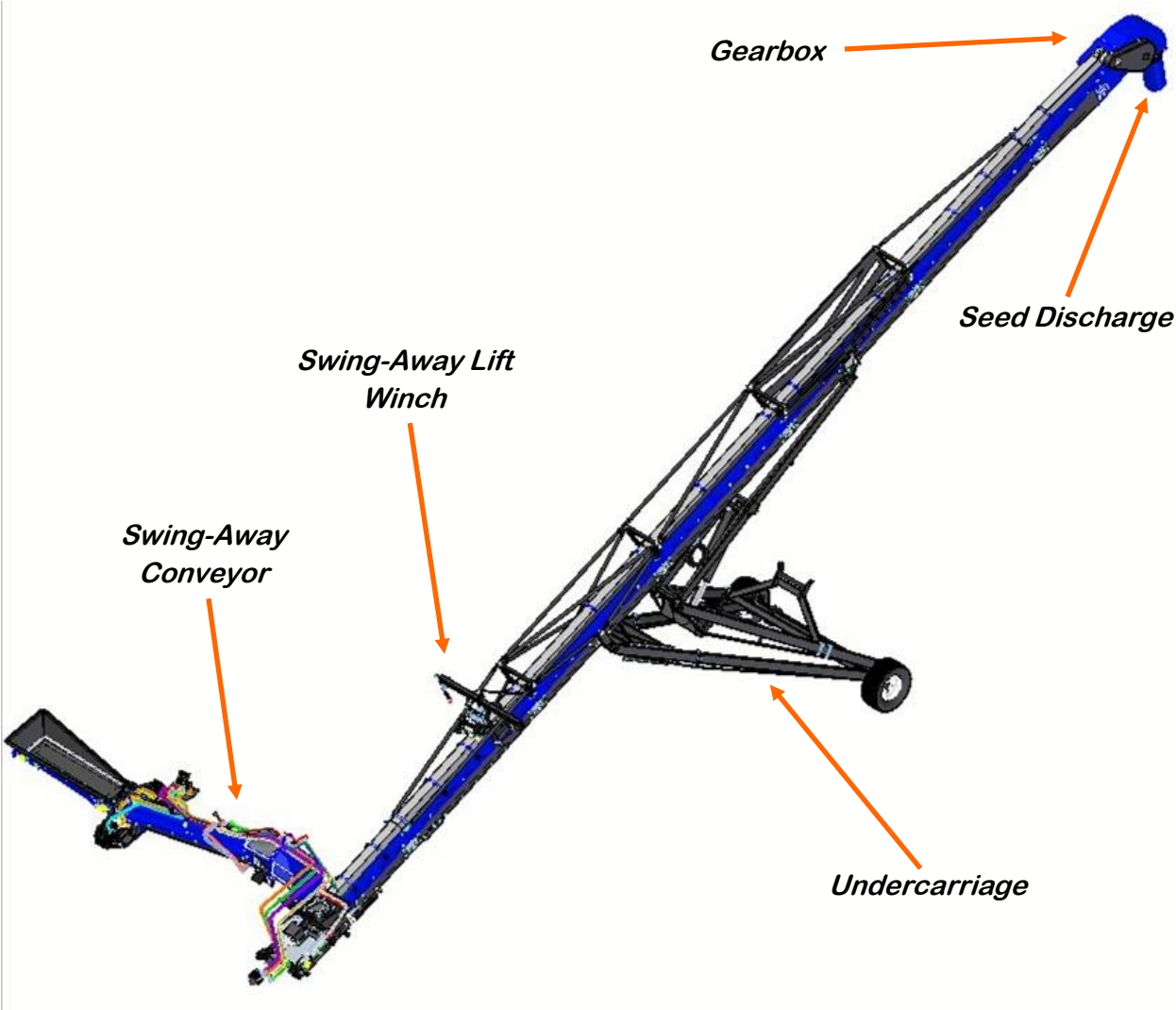
It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, and prudence of personnel involved in the operation, transport, maintenance and storage of equipment or in the use and maintenance of facilities.

NOTICE

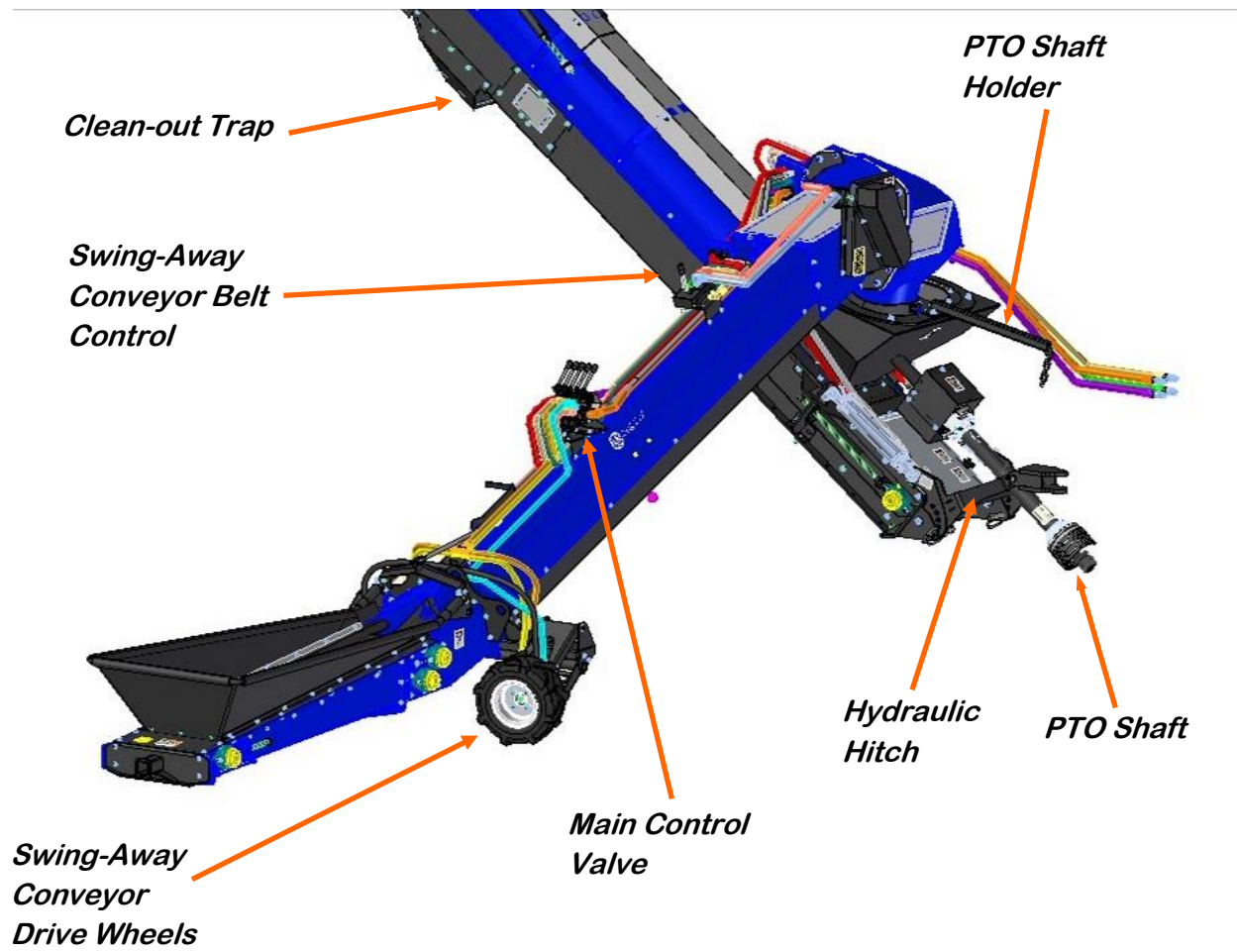
Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely and how to set it to provide maximum efficiency. By following the operating instructions in conjunction with a good maintenance program, your conveyor will provide many years of trouble free service.

SYSTEM OVERVIEW

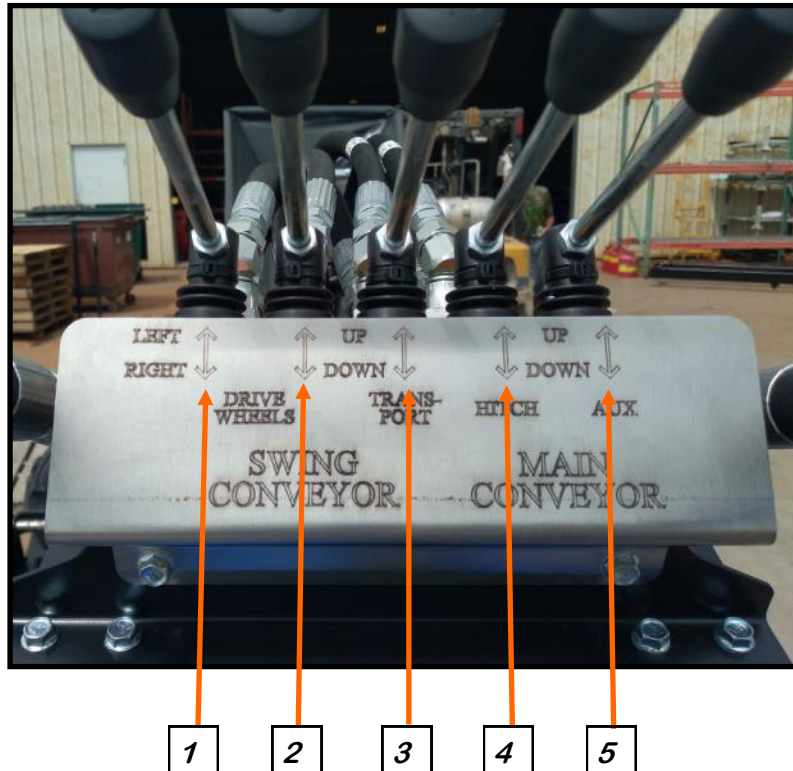


TS45 Swing-Away Bin Fill Conveyor



TS45 Swing-Away Bin Fill Conveyor

Main Control Valve



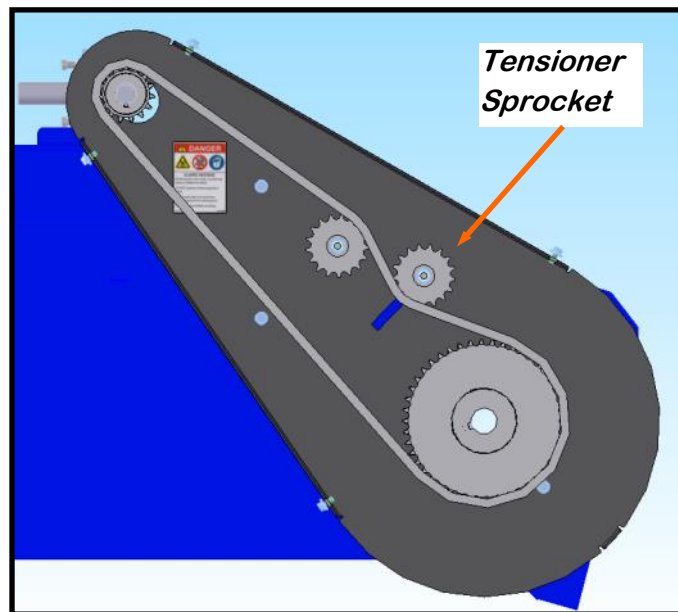
1. Drive swing-away conveyor left or right.
2. Raises and lower swing away conveyor drive wheels.
3. Raises and lowers swing-away lift winch .
4. Raises and lowers hydraulic hitch.
5. Not used.

PRE-OPERATION CHECKLIST

Efficient and safe operation of the Bin Fill Conveyor requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining the good mechanical condition of the conveyor that this checklist is followed.

Before operating the conveyor and each time thereafter, the following areas should be checked off:

1. Tires are properly inflated.
2. Collapsible hopper on swing-away conveyor folds down.
3. All hardware is installed and tightened properly.
4. Check the drive chain on head section to ensure alignment and tension.
5. Check conveying belts for fraying or other damage and that they are properly adjusted and aligned. (refer to page 34)
6. Service the machine per the schedule outlined in Section E, Maintenance (see page 33).
7. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
8. Check worksite. Clean up working area to prevent slipping or tripping.
9. Check that hydraulic fittings are secure and not leaking hydraulic fluid.
10. Be sure conveyor wheels are chocked.
11. Check that discharge and intake areas are free of obstructions.



Drive Chain

CONVEYOR SET-UP

WARNING

Anchoring and/or support of conveyor during operation is necessary. When the lower half of conveyor empties of material, the weight balance transfers to the upper end of the machine, which can cause upending.

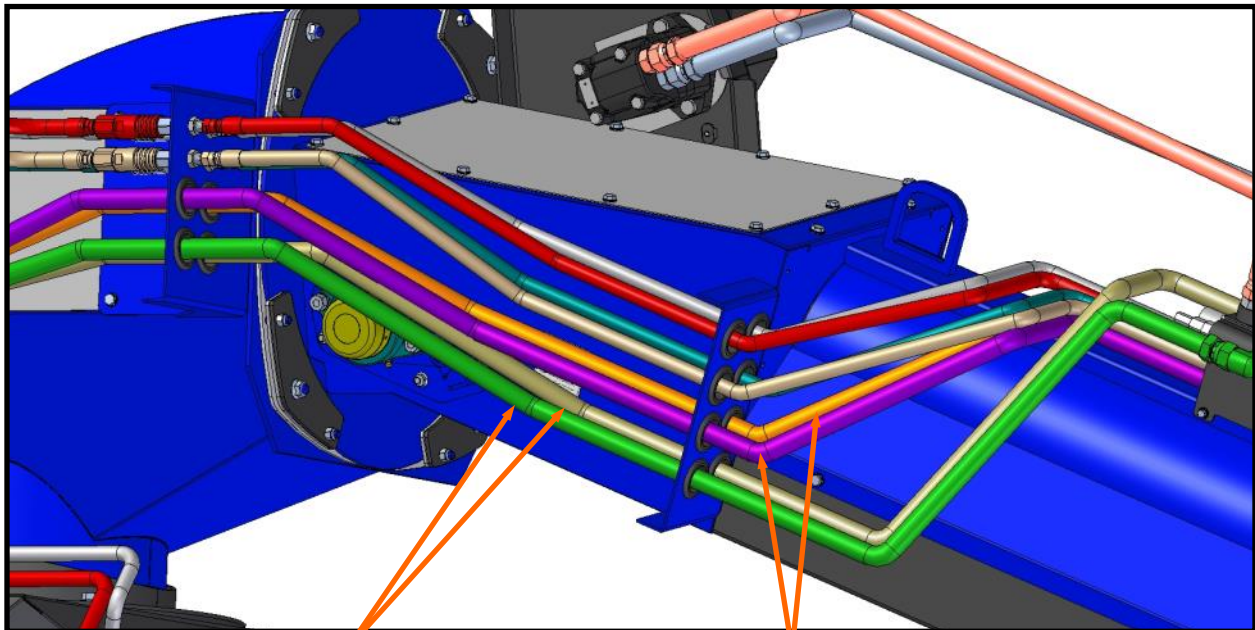
The following steps outline the initial set-up of your Bin Fill Conveyor:

1. Clear the area of bystanders, especially small children before starting.
2. Be sure there is enough clearance from overhead obstructions and power lines or other equipment to move the machine into its working position.
3. Attach the conveyor to an appropriate tractor with hydraulics and PTO drive.

NOTICE

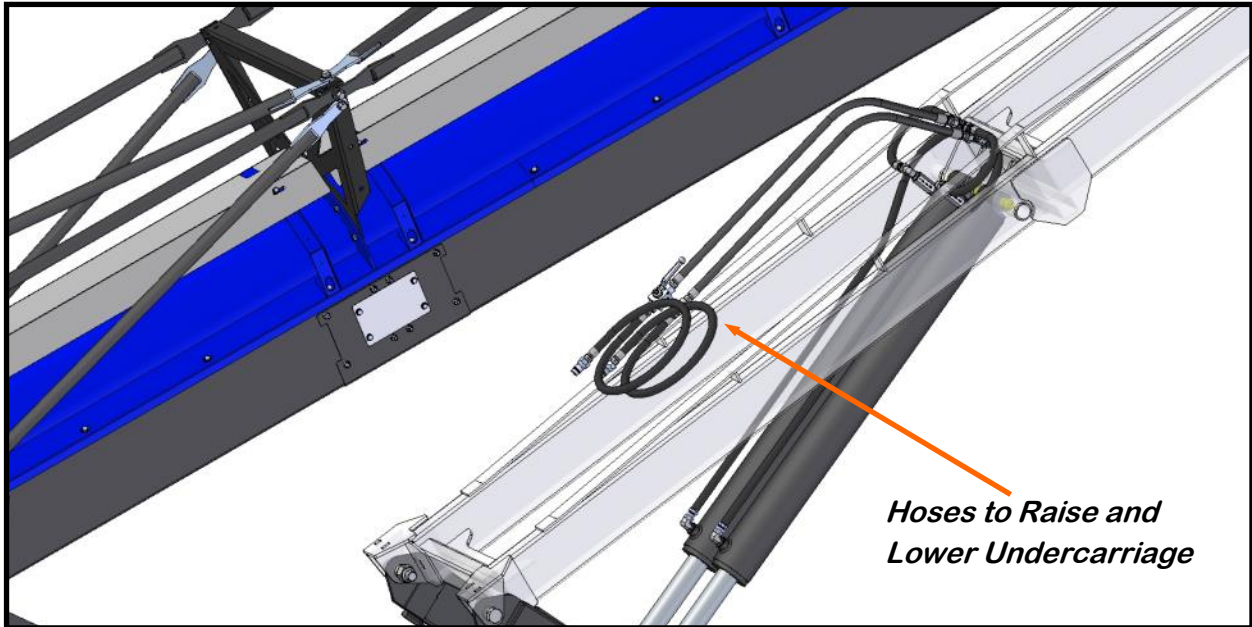
Tractor must have up to 20 GPM max hydraulic flow for operation of swing out conveyor. Also 2500 PSi required to lift conveyor under-carriage.

4. Turn off tractor.
5. Connect all hydraulic lines to tractor.



*Main Control
Valve Hoses*

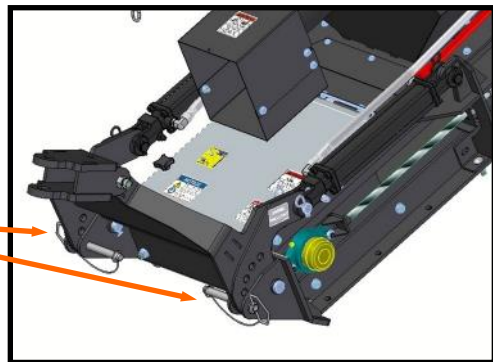
*Swing-Away Conveyor
Belt Drive Hoses*



6. Remove pins from hitch.



Failure to remove pins prior to step 8 can cause injury or damage to equipment.

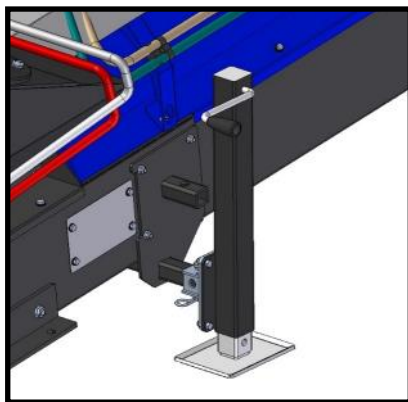


7. Turn tractor back on.

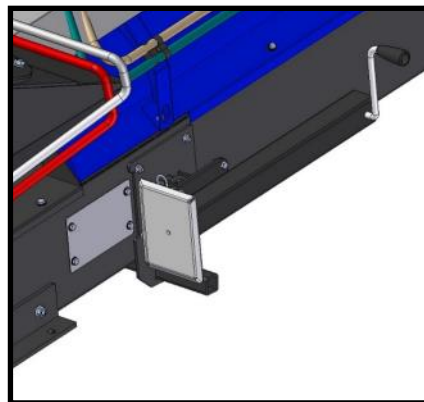
8. Raise the hydraulic hitch on conveyor and connect to draw bar on tractor. Use the manual jack to help get the conveyor to the correct height (below left image).

9. When hitch is connected, lower back down to raise inlet of conveyor off the ground.

10. Move jack to storage position (below right image).



Jack in operational position.



Jack in storage position.

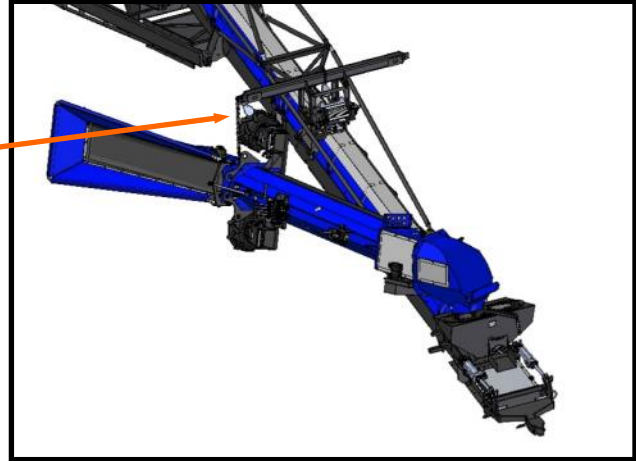
TS45 Swing-Away Bin Fill Conveyor

11. Move conveyor as near as possible to desired position.

12. Unhook the support chain from the swing-away conveyor.

13. From tractor, raise the conveyor outlet so it clears the top of the bin you intend to load seed into.

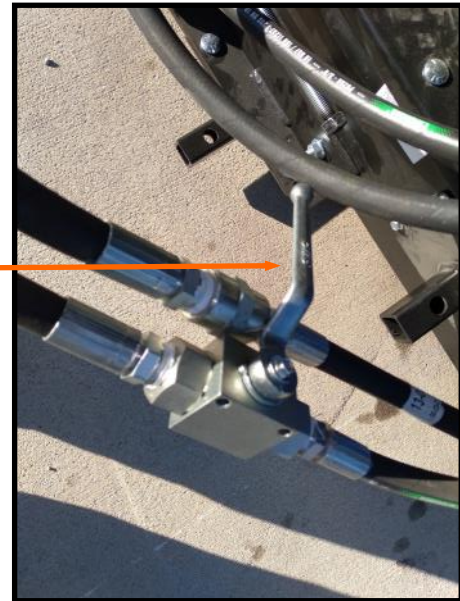
14. Move conveyor to it's final position so conveyor discharges into bin.



15. Set the parking brake on the towing vehicle before dismounting.

16. Place chocks in the front and rear of each wheel.

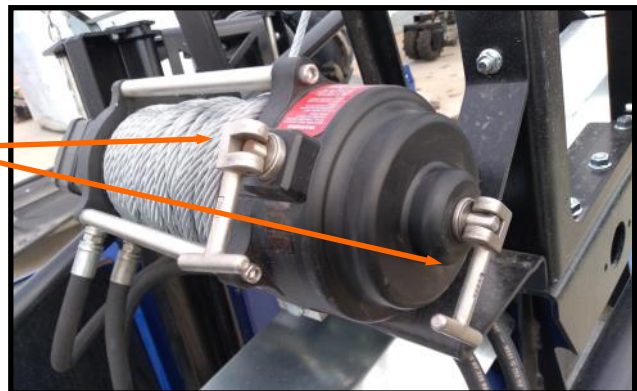
16. Turn the valve for the undercarriage to off. This will prevent the undercarriage from settling during operation.



17. Using the main control valve, lower the swing-way conveyor to the ground. As you lower the conveyor, use the drive wheels to help rotate the conveyor flat.

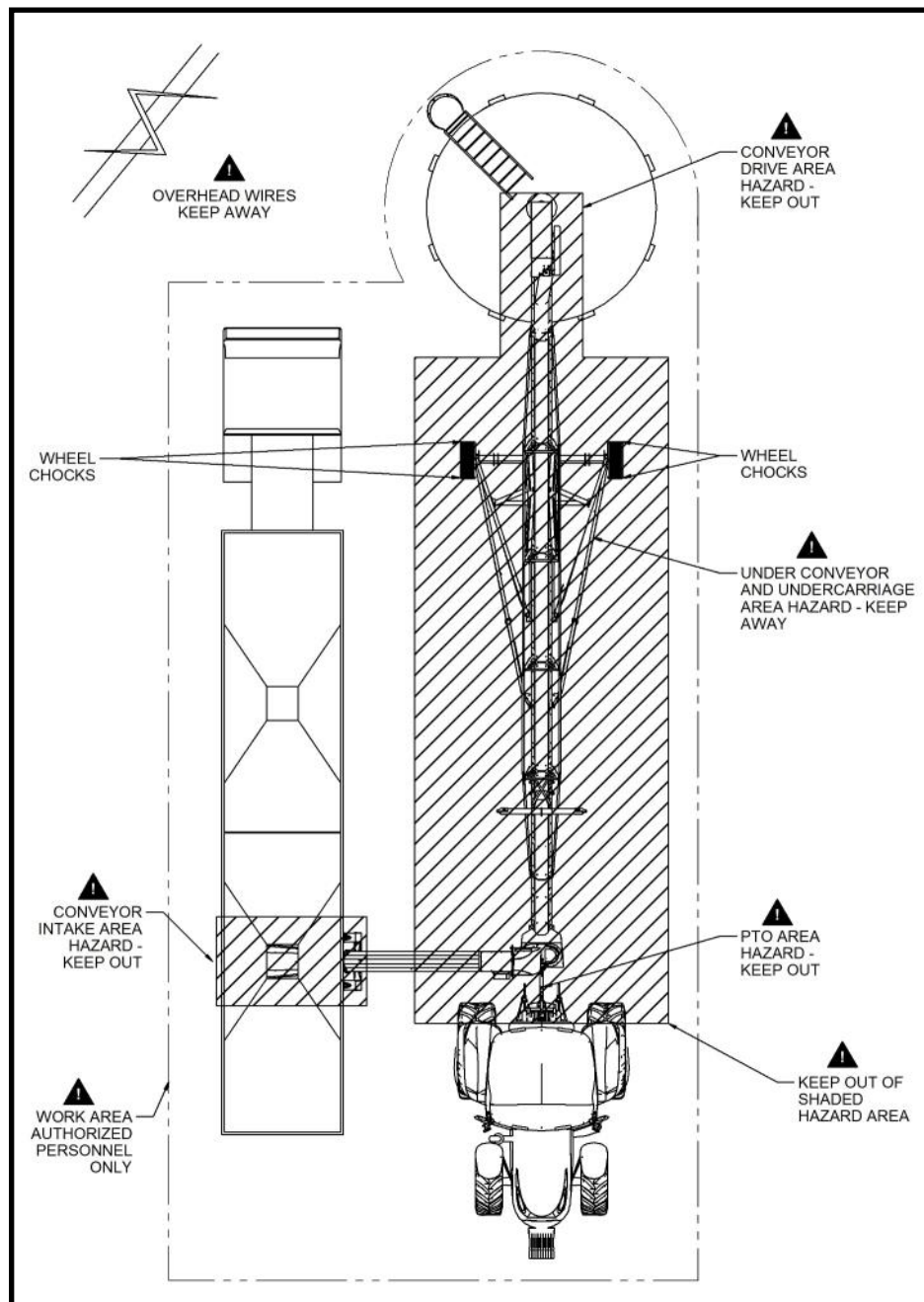
NOTICE

Ensure that the winch speed lever settings are set as shown to right.



TS45 Swing-Away Bin Fill Conveyor

18. Review the Workplace Safety Diagram for your model prior to starting work. Follow all setup instructions and do not allow any unauthorized people into the working area.



19. Reverse the above procedure when removing the machine from its working position.

MACHINE BREAK-IN

Although there are no operational restrictions on the conveyor when used for the first time, it is required that the following mechanical items be checked. A small amount of rubber flashing from the conveyor belt may be present during initial belt break-in period. This is part of the normal break-in process.

Before starting

1. Read the Conveyor Operator's Manual.
2. **During the conveyor's first few minutes of operation, before any seed is run through, it is essential that the operator check conveyor belt tension and alignment and make any necessary adjustments (see page 34).**

After operating or transport for 1/2 hour

1. Re-torque all the wheel bolts.
2. Re-torque fasteners and hardware.
3. Check that all safety decals are installed and legible. Apply new decals if required.
4. Check the drive belt tension and alignment. Tension or align as required.
5. Check the conveying belt tension and alignment. Tension or align as required.
6. Check that all guards are installed and working as intended.

After operating for 5 hours and 10 hours

1. Re-torque all wheel bolts, fasteners and hardware.
2. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
3. Check safety decals. Install new ones if required.
4. Check the drive chain tension on main conveyor.
5. Check the drive belt tension and alignment on swing-away conveyor.
6. Check conveying belt tension and alignment. Tension or align as required.
7. Then go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

OPERATIONAL HINTS

- **USC strongly recommends not using the conveyor at or below freezing temperatures. If you do, use the following start-up procedure:**
 1. Turn the conveyor ON and OFF several times to bump the conveyor belt. If any ice has formed on or around the belt, this should break the belt free. If the belt does not move, wait for the outside temperature to increase.
 2. Once the belt is moving freely, let it run for 4 or 5 minutes to allow it to warm up.
 3. At the end of the warm-up period, verify that the belt has the correct tension and is aligned properly. If it is not, follow the tension and alignment instructions outlined in the Maintenance Section to make the necessary adjustments (see page 34).
- Direct the flow of material into the inlet hopper when moving material. Do not “flood feed” the inlet hopper.
- Always listen for any unusual sounds or noises. If any are heard, continue to run for a short time to allow any material to clear from the conveyor. If you still hear the sound, stop the machine and determine the source. Correct the problem before resuming work.
- Never allow anyone into the workplace hazard area. If anyone enters, stop immediately. Make them LEAVE before resuming work.
- Do not run the machine for long periods of time with no material on the belt. It increases the wear. Try to run the conveyor only when moving material.
- Do not support the discharge end directly on the bin, truck box, trailer or wagon. Stake the intake (hopper) or weight it down to prevent upending.

OPERATION

When using the conveyor, follow this procedure:

1. Clear the area of bystanders, especially small children, before starting.
2. Review the Pre-Operation Checklist (see page 21) before starting.
3. Review the Workplace Hazards schematic and use extra care when inside the hazard area. Keep all bystanders out of this area. Should anyone enter this area, stop the machine immediately.
4. Set the conveyor in position. To achieve rated capacity, the conveyor should be run **no steeper than 40°**. The cleated belt on the main conveyor will minimize material rollback during operation.
5. Drive or back the truck or wagon into position for unloading.
6. Turn on hydraulics to the swing away conveyor belt.
7. Engage the PTO drive to the main conveyor belt.
8. Begin the flow of material from the truck to the swing-away.
9. To stop the conveyor; stop the flow of material into the conveyor and run until the belt is empty. Turn off swing-away conveyor and main belt conveyor.

Emergency Stopping

Although it is recommended that the machine be emptied before stopping, in an emergency situation, stop or shutdown the conveyor belts immediately. Correct the emergency before resuming work.

Restarting

When the machine is shut down inadvertently or for an emergency, the belt may still be covered with material. It may be necessary to tighten the drive belt slightly to handle the heavier-than-normal starting loads.

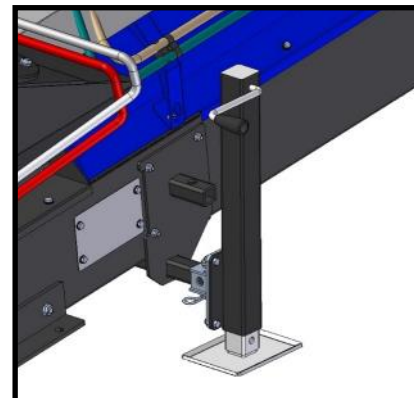
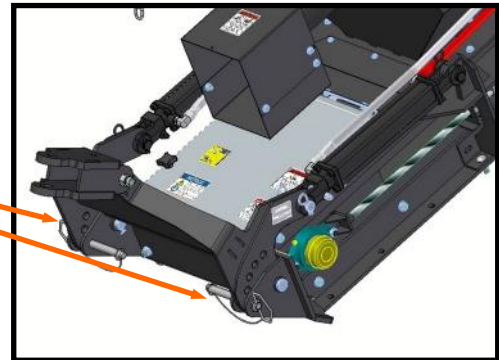
TRANSPORTING

SECTION C

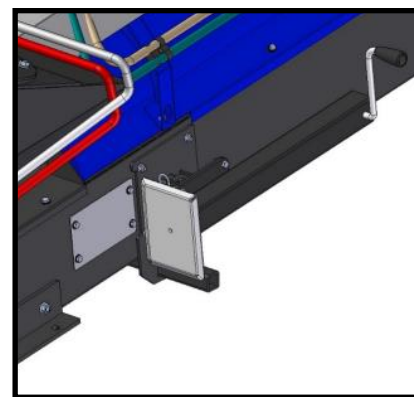
ATTACHING AND UNHOOKING

It is recommended that the conveyor be attached to an appropriate towing vehicle whenever it is moved. Follow this procedure when attaching to or unhooking from a towing vehicle:

1. Remove pins from hitch.
2. Turn tractor on.
3. Remove wheel chocks before raising the tail end of the conveyor. Failure to do so can damage lifting mechanism.
4. Raise the hydraulic hitch on conveyor and connect to draw bar on tractor. Use the manual jack to help get the conveyor to the correct height (right image).
5. Be sure that there is sufficient room and clearance to back up to the machine.
6. Back up tow vehicle and align with drawbar on conveyor.
7. Align the drawbar to tow vehicle and install a hitch pin with a retainer (not supplied). Hitch pin should not be less than 3/4 inch in diameter. Anything smaller could damage lifting mechanism. 1 inch diameter is optimal.
8. When hitch is connected, lower back down to raise inlet of conveyor off the ground.
9. Re-install the 2 pins in hitch.
10. Move jack to storage position (right image).
11. Move to new location.



Jack in operational position.

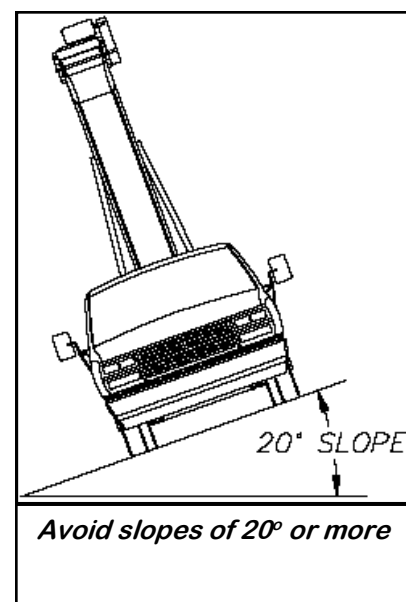
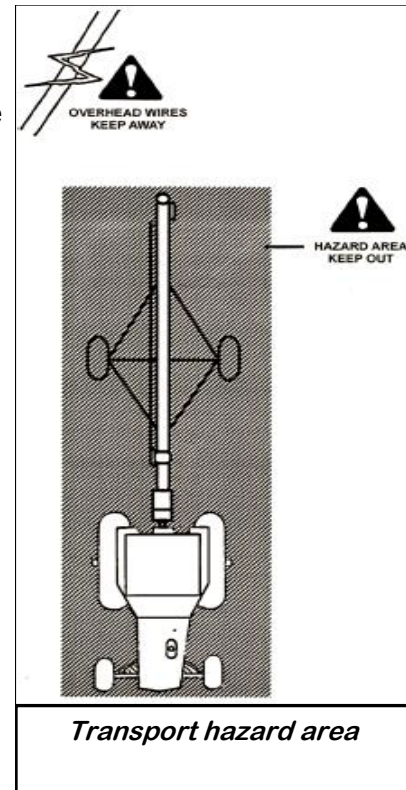


Jack in storage position.

TRANSPORTING

Bin Fill conveyors are designed to be easily and conveniently moved from place to place. When transporting, follow this procedure:

1. Review the Transport Safety Schematic before starting.
2. Be sure all bystanders are clear of the machine.
3. Unplug the power cord, wrap around frame, and secure to prevent dragging.
4. Attach to a towing vehicle using a hitch pin with a retainer.
5. Remove chocks from the wheels.
6. Lower the conveyor into its fully down position so that it is sitting on the rest plate on the axle assembly.
7. Electrocutation can occur without direct contact.
8. Never go across slopes of more than 20°. It is better to go straight up or straight down a slope.
9. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, and can be seen clearly by all overtaking and oncoming traffic.
10. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.
11. It is not recommended that the machine be transported faster than 25 mph (40 km/h).
12. Do not allow riders on the machine or towing vehicle.
13. During periods of limited visibility, use pilot vehicles or add extra lights to the machine.
14. Always use hazard flashers on the vehicle when transporting unless prohibited by law.



TROUBLESHOOTING SECTION D

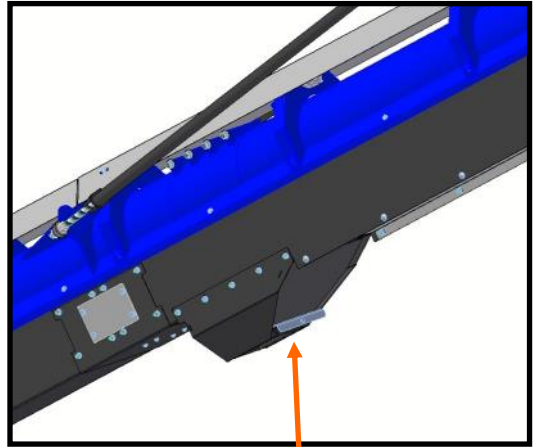
Below is a table describing the most frequent problems and solutions with the Bin Fill Conveyor. For further assistance, contact USC service or your authorized dealer.

Problem	Possible Cause	Solution
Conveyor will not run.	<ol style="list-style-type: none"> 1. PTO not engaged. 2. Conveying belt loose. 3. Drive chain loose. 	<ol style="list-style-type: none"> 1. Start power source or turn on power. 2. Tighten and align belt. 3. Check drive chain (page 36).
Belt edge fraying.	<ol style="list-style-type: none"> 1. Belt not aligned. 	<ol style="list-style-type: none"> 1. Align and tension belt.
Low conveying capacity.	<ol style="list-style-type: none"> 1. Angle too steep. 2. Slow operating speed. 3. Conveyor belt slipping. 	<ol style="list-style-type: none"> 1. Reposition with angle at 40 degrees or less. 2. Increase operating speed. 3. Tighten belt.
Conveyor will not raise	<ol style="list-style-type: none"> 1. Low oil PSI to cylinders. 2. Low oil in tractor. 3. Using incorrect oil. 4. Valve closed on hydraulic line. 5. Pivot point hardware is too tight. 	<ol style="list-style-type: none"> 1. Check power source, make sure switch inside of control box is in the on position. 2. Check oil level in tractor and fill if necessary. 3. Ensure tractor is filled with correct oil. 4. Ensure that valve on hydraulic line is open. 5. Back hardware tightness off so hardware will easily rotate. (Make sure lock-nuts are still fully engaged)
Swing-Away conveyor will not move side to side	<ol style="list-style-type: none"> 1. Hydraulics not engaged in tractor. 2. Drive wheels are too low dragging conveyor. 	<ol style="list-style-type: none"> 1. Turn on hydraulics 2. Raise up drive wheels.
Swing-Away conveyor belt will not run.	<ol style="list-style-type: none"> 1. Hydraulics not engaged in tractor. 2. Conveyor belt slipping. 	<ol style="list-style-type: none"> 1. Turn on hydraulics 2. Tighten and align belt.

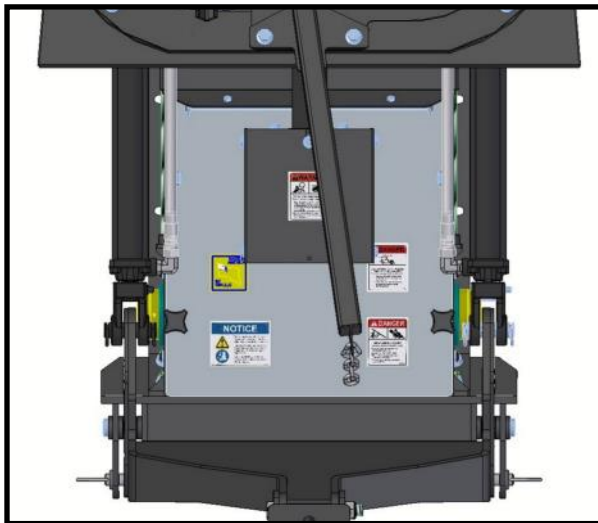
UNPLUGGING

In unusual moisture or material conditions, the machine can plug. When unplugging, follow this procedure:

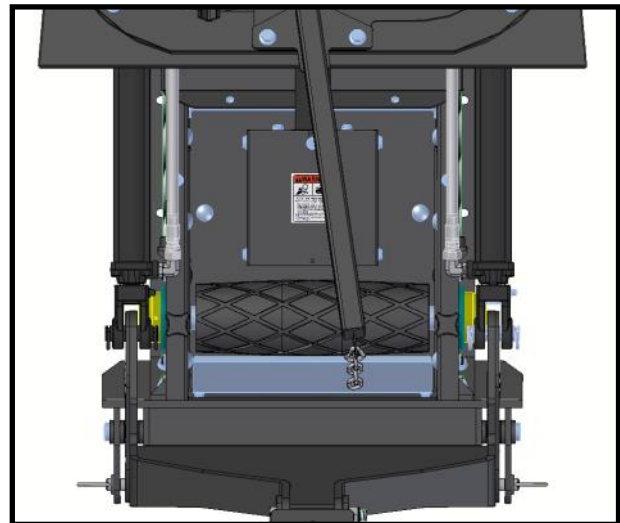
1. Place all controls in neutral or off, stop motor, disable and lock out power source before unplugging.
2. Remove the nut, bolt and sliding clean out door from the bottom of the inlet tube section of the conveyor. Remove any built up material. Reinstall door and hardware.
3. Open the tail cover (below).
4. Remove plugged material.
5. Install and secure conveyor and tail covers.



Sliding Clean Out



Bottom clean-out



*Bottom clean-out cover removed
(belt not shown)*

MAINTENANCE

SECTION E

Proper maintenance of the Tube Series Conveyors is critical for peak performance, reliability and accuracy of this system. The following is a guideline for the type of maintenance and servicing that should be performed on this unit. Your environment and uses may require additional maintenance and service beyond this list to assure a reliable and safe unit. The operator of this unit has ultimate responsibility to identify areas of concern and rectify them before they become a hazard or safety issue. There is no substitute for a trained, alert operator.



Do not put this unit into operation with any questionably maintained parts. Poor performance or a hazard may occur.



Do not use compressed air or water under pressure to clean any of the components of the USC equipment.



Failure to maintain the proper belt tension will cause the belt to slip. This will damage the belt and head drive pulley. If the belt is not tracking correctly, it can ride along one edge causing the belt to fray and damage the belt splice. Either problem will cause the belt to burn or wear out prematurely.

GREASING

Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium-based grease.

- Use a Maintenance Checklist to keep record of all scheduled maintenance.
- Use a hand-held grease gun for all greasing.
- Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
- Replace and repair broken fittings immediately.

Storing Lubricants

Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

NOTICE

If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

CONVEYING BELT TENSION AND ALIGNMENT - TAIL END

A contoured belt with molded flights is used to convey material along the frame. The tension and alignment of the belt should be checked weekly, or more often if required, to be sure that it does not slip or run to one side. A properly tensioned belt will not slip when it is operating. Operating the belt with less slippage will increase the belt life and causes less stress on bearings, pulleys and shafts.



Although it is acceptable to align the belt from either the Head or the Tail (Intake) end. Tightening the belt may only be done from the Tail end of the conveyor.

To maintain the belt, follow this procedure:

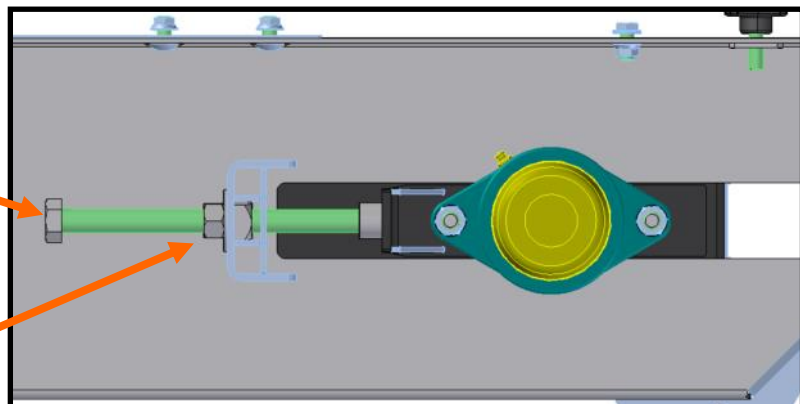
NOTICE

Place all controls in neutral or off, stop motor and disable power source before working on belt.

1. Use the take-up bolt located at the tail to set the tension of the belting.
2. If the belt needs to be tightened to prevent slippage, use the take-up adjustments on the tail end only.
3. The belt is tightened by turning both take-up adjustments an equal number of turns.
4. Use the drive roller to check the alignment. The belt should be centered.
5. Turn the belt 1/2 revolution when the belt is new and check the drive and tail roller. If out of alignment, the belt will move to the loose side. Loosen the jam nut and use the bearing position bolts to set the position. Tighten jam nut.
6. Run and check again. Check frequently during the first few minutes of operation and then several times during the first 10 hours. The belt normally seats itself during the first 10 hours of operation and can be checked weekly after that.
7. The belt is properly aligned when the belt runs in the center of the head and tail rollers.

Tension bolt, used to align and tension belt

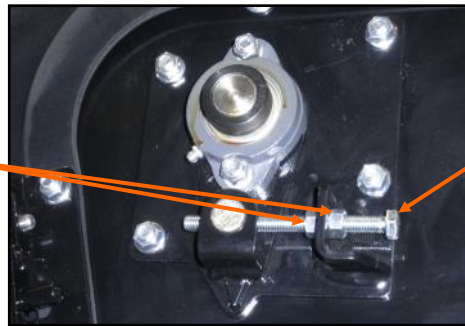
This nut locks the tension bolt in position



CONVEYING BELT ALIGNMENT - HEAD END

1. A misaligned belt will track toward the loose side. Set the tracking by loosening the bearing mounts on the tight side and using the bearing position bolt to move the end of the head roller toward the tail. Tighten the bearing mount when the belt is centered on the head roller.
2. Run the belt and check the tracking again. Loosen the tight side slightly again if required. Repeat the adjusting and checking procedure until the belt centers on the inlet end roller and remains centered when running.
3. Always repeat this aligning procedure when installing a new belt. Check frequently during the first 10 hours of operation. After 10 hours, the belt is normally seated and checking the alignment can be done less frequently.

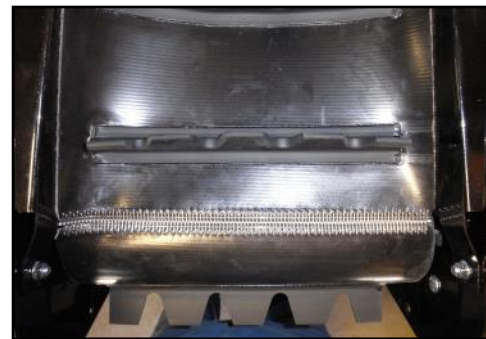
Tighten jam nuts after adjustment



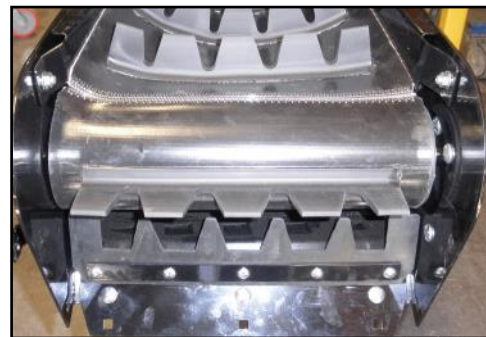
Use this bolt to align the belt

BELT REPLACEMENT

1. Rotate the belt until the seam is visible.
2. Move the tail roller to its loosest position.
3. Pull all the slack to the seam area.
4. Remove the wire connector and open the belt.
5. Attach one end of the replacement belt to the belt end being removed.
6. Pull the old belt out and the new belt will be threaded into place.
7. Disconnect the old belt.
8. Connect the ends of the new belt together and secure.
9. Set the belt tension.
10. Check and set the belt alignment.



Belt Seam



Check Alignment

DRIVE BELT CHAIN & ALIGNMENT

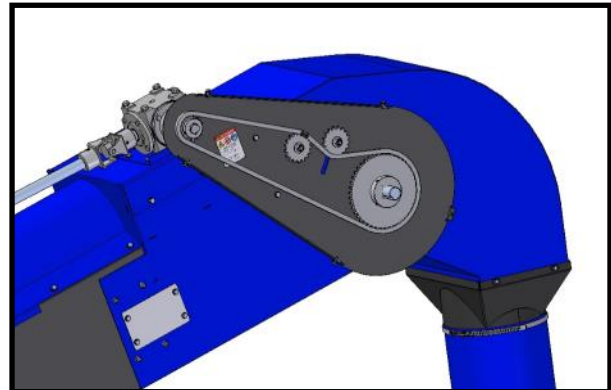
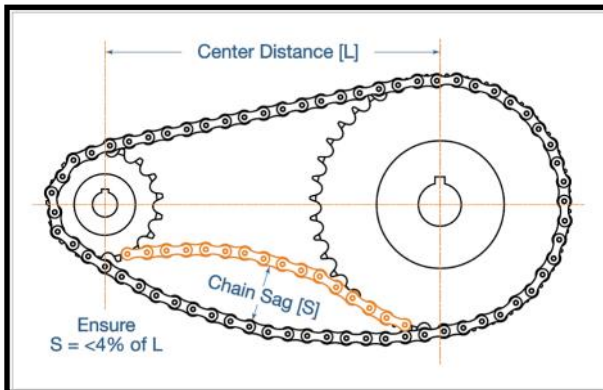
Power to the main conveying belt is transmitted through a series of drive shafts up to the head of the conveyor. This goes through a gearbox which drives a chain to turn the head pulley. The chain must be maintained at the proper tension and sprocket alignment to obtain the desired performance and life. When maintaining the drive system, follow this procedure:

NOTICE

Shut off tractor and disconnect the PTO shaft to prevent any unnecessary start up of the machine.

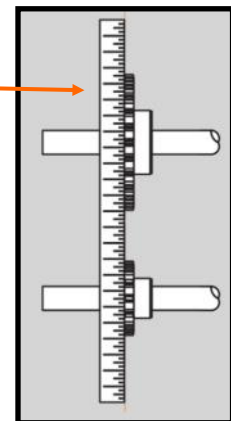
Main Belt Drive Chain Tension

1. Remove gearbox drive guard.
2. Check the chain sag, this should be approximately 1" (below left).
3. If chain sag needs adjusted, loosen the nut on the tensioning sprocket and adjust to get the proper tension.
4. Close and secure guards.



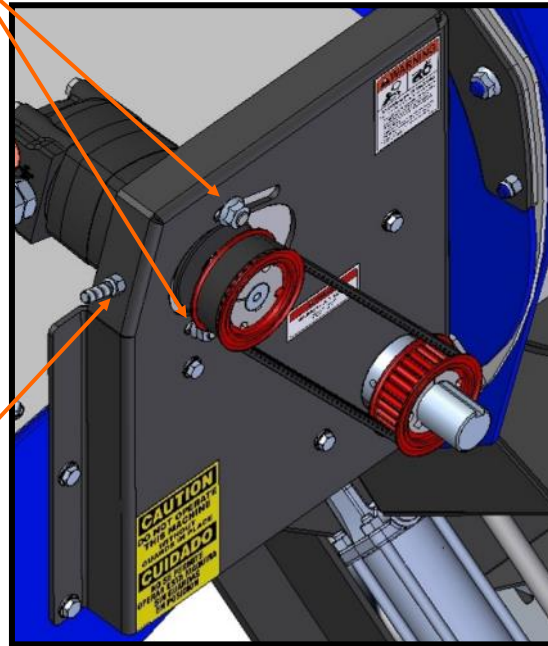
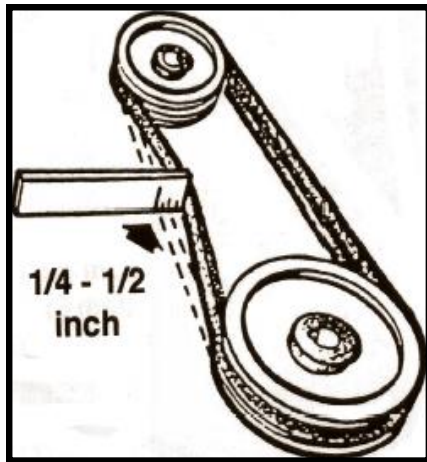
Drive Chain Alignment

1. Lay a straightedge across the sprocket faces to check the alignment (right).
2. Loosen the set screws on the sprocket to adjust alignment.
3. Once aligned re-tighten set screws to secure sprocket on shaft.
4. Check chain tension
5. Close and secure guards.



Swing-Away Drive Belt Tension

1. Remove hydraulic motor drive guard.
2. Check the belt deflection, this should be approximately 1/4" - 1/2" (below left).
3. If belt needs adjusted, loosen the 2 nuts that attach the motor to the back plate.



4. Use the tensioning nut on side of back plate to adjust the belt tension.
5. Once belt is adjusted, re-tighten nuts for the motor.
6. Close and secure guards.

Pulley Alignment

1. Lay a straightedge across the pulley faces to check the alignment (right).
2. Loosen the set screws to adjust alignment.
3. Once aligned re-tighten set screws to secure sprocket on shaft.
4. Check belt tension.
5. Close and secure guards.

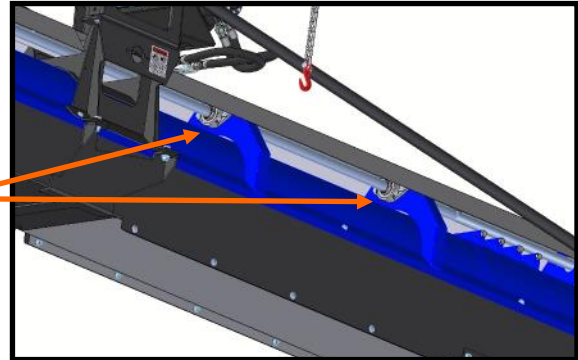


CONVEYOR SERVICING INTERVALS

Every 40 hours or Weekly

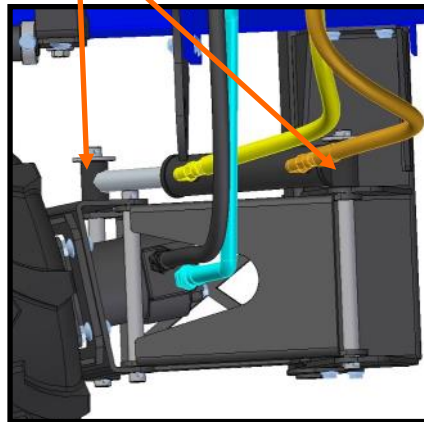
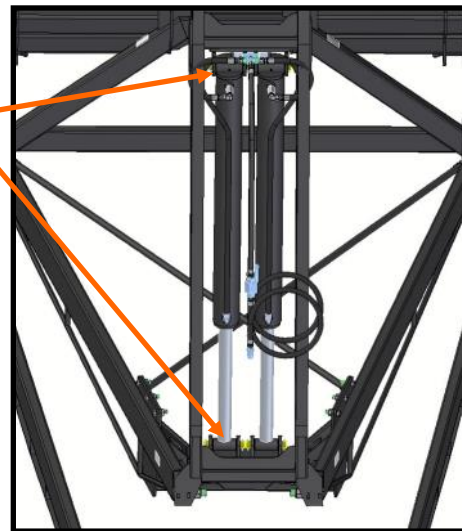
1. Check the conveyor belt tension and alignment.
2. Grease conveyor bearings.

- A. Drive shaft bearings, located under guards up the entire length of conveyor.
- B. Tail roller bearings right and left (2 locations).



- C. Head roller bearings right and left (2 locations).

- D. Grease pivots on undercarriage cylinders.
- E. Grease pivots on swing-away drive wheel lift cylinders



3. Remove the guard at head of conveyor and check the drive chain tension and alignment. The chain will have a sag of approximately 1 inch when properly tensioned.
4. Remove motor drive guard on swing-away and check the drive belt tension and alignment. The belt will have a deflection of approximate 1/4" - 1/2" inch when properly tensioned.
5. Check tire pressures.

STORAGE**SECTION F**

When storing the Bin Fill Conveyor for long periods of time, the following procedure must be followed to reduce the chance of rust, corrosion and fatigue of the conveyor. You can also use these steps when storing the machine for the winter.



A dust mask and protective rubber gloves shall be used when cleaning the machine.

1. Clear the area of bystanders, especially small children.
2. Thoroughly wash the entire machine 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 the entangled material.
4. Lubricate all grease fittings. Make sure that all grease cavities have been filled with grease to remove any water residue from the washing. This also protects the bearing seals.
5. Remove drive assembly cover. Clean entire area and ensure drive belt and chain are clean and free of debris. Lubricate drive chain.
6. Touch up all paint nicks and scratches to prevent rusting.
7. Move to storage area.
8. Select an area that is dry, level and free of debris.
9. Unhook from towing vehicle.
10. Place blocks under the intake or the jack if required.
11. If the machine cannot be placed inside, cover the electric motor and inlet hopper with a water proof tarpaulin and tie securely in place.
12. Store machine in an area away from human activity.
13. Do not allow children to play on or around the stored machine.

SECTION G

USC LIMITED WARRANTY

USC, LLC, MANUFACTURER WARRANTY ON SEED TREATING EQUIPMENT

01AUG22

USC, LLC, (Manufacturer) warrants its equipment as follows:

1.Limited Warranty: Manufacturer warrants that the Products sold hereunder will be free from defects in material and workmanship for a period of 18 months from date of shipment by Manufacturer for all seed treating equipment and a period of 12 months from date of shipment by Manufacturer for all grain and fertilizer handling equipment.

If the Products do not conform to this Limited Warranty during the warranty period, Buyer shall notify Manufacturer in writing (on the approved USC warranty claim form) of the claimed defects and demonstrate to Manufacturer satisfaction that said defects are covered by this Limited Warranty (through pictures, video or other objective data). If the defects are properly reported to Manufacturer within the warranty period, and the defects are of such type and nature as to be covered by this warranty, Manufacturer shall, at its expense, furnish replacement Products or, at Manufacturer's option, replacement parts for the defective products. Shipping and installation of the replacement Products or replacement parts shall be at the Buyer's expense.

All replacement parts orders through Manufacturer will carry their specific manufacturer's standard warranty. There is no warranty on replacement parts manufactured by Manufacturer. Manufacturer will not extend any warranty due to replaced parts. The end user is responsible for all shipping and handling expenses for parts returned to Manufacturer under this section which may or may not be included in that specific warranty. Manufacturer will pay shipping expense between USC and its vendor.

2.Other Limits: THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A

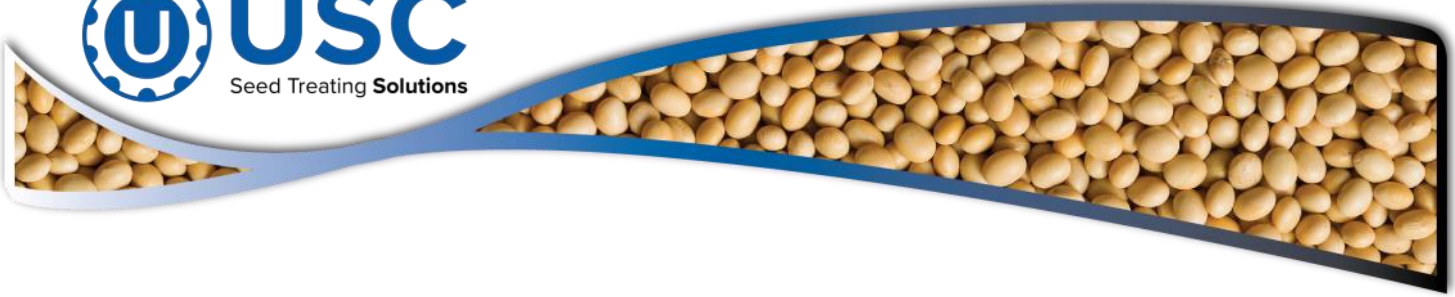
PARTICULAR PURPOSE. Manufacturer does not warrant against damages or defects arising from improper installation (where installation is by persons other than Manufacturer), against defects in products or components not manufactured by Manufacturer, or against damages resulting from such non-Manufacturer made products or components. Manufacturer passes on to the Buyer the warranty it received (if any) from the maker of such non-Manufacturer made products or components. This warranty also does not apply to Products upon which repairs and / or modifications have been affected or attempted by persons other than pursuant to written authorization by Manufacturer. This includes any welding on equipment which could damage electrical components. Manufacturer does not warrant against injuries or damages resulting from misuse and / or abuse of Products, improper storage or handling, acts of nature, effects of weather, including effects of weather due to outside storage, accidents, or damages incurred during transportation by common carrier or Dealer/customer arranged freight. Any replacement or repair covered under this warranty will not extend the warranty period. The remainder of the manufacturer's warranty will remain in force until stated expiration.

3.Exclusive Obligation: THIS WARRANTY IS EXCLUSIVE. The sole and exclusive obligation of Manufacturer shall be to repair or replace the defective Products in the manner and for the period provided above. Manufacturer shall not have any other obligation with respect to the Products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Limited Warranty or otherwise, shall Manufacturer be liable for lost profits, lost revenue, lost sales (whether direct or indirect damages), incidental, special, punitive, indirect or consequential damages. Buyer shall make no claims for renumeration for any loss as a result of USC equipment and USC shall reject any and all claims that may arise as stated herein.

4.Other Statements: Manufacturer's employees or representatives' oral or other written statements do not constitute warranties, shall not be relied upon by Buyer, and are not a part of the contract for sale or this limited warranty. The USC Warranty Manager is the final decision point for all warranty claims.

5.Return Policy: Approval is required prior to returning goods to Manufacturer irrespective of warranty claim. Manufacturer may give a credit, less a 15% restocking fee, for goods that are returned in new, sellable condition. Items returned for warranty that are found to be not covered by the warranty will remain the property of the Buyer. The Buyer will have the ability to have part returned at their expense or, if in new, sellable condition, receive a credit less a 15% restocking fee and less any USC paid freight for its return.

6.Entire Obligation: This Limited Warranty states the entire obligation of Manufacturer with respect to the Products. If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect. Other terms included in Manufacturer's Terms of Sale will also apply.



DOCUMENT REVIEW RECORD	
DATE	BY
9/2/22	ADM

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