

# **DRIVE OVER CONVEYOR**



# **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 Drive Over 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.

#### 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 serialization label is located on the side of the conveyor head section.







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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.

## **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.



## **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 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**

This 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.



#### **Drive Over Conveyor**

**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**

- Read and understand the operator's manual and all safety labels before operating, maintaining, adjusting or unplugging the equipment.
- 2. Only trained persons shall operate the equipment . An untrained operator is not qualified to operate the machine.
- 3. Have a first-aid kit available for use should the need arise, and know how to use it.







- 4. Provide a fire extinguisher for use in case of an accident. Store in a highly visible place.
- 5. Do not allow children, spectators or bystanders within hazard area of machine.
- 6. 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
- 7. 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.
- 8. Review safety related items annually with all personnel who will be operating or maintaining the equipment.







## **OPERATING SAFETY:**

- 1. Read and understand the operator's manual and all safety labels 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. Electrocution can occur without direct contact.
- 7. Do not operate machine when any guards are removed.
- 8. Inspect welds and repair if needed.



#### **Drive Over Conveyor**

## **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 labels 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.



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



Guards provided with USC equipment are to remain in place during operation.



#### 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.









moving parts during operation.

DO NOT operate without guards in place.

Keep hands, feet, hair and loose clothing away from moving parts. Lock-out power before servicing.

USC 785-431-7900

09-02-0027

#### SAFE OPERATING INSTRUCTIONS

Make certain everyone is clear of area before operating or moving conveyor.

Disconnect power before resetting motor overload.

Be sure electric motors are grounded.

Support discharge end or anchor intake end to prevent upending.

Empty conveyor before moving to prevent upending.

Lower conveyor to its fully down position before moving or transporting. Use a tractor to move and transport.

09-02-0032









#### CRUSHING HAZARD

Conveyor frame can crush or entrap when lowered into operating position. Serious injury to hand or foot can result.

Do not place hand or foot under conveyor frame while lowering conveyor into operating position.

Stay clear of conveyor frame while lowering.

DC-xxx

09-02-0034



#### SKIN INJECTION HAZARD

Hydraulic Fluid under pressure can escape from hoses and connections. Fluid under pressure can puncture skin causing serious injury or death.

Do not use fingers or hands to check for leaks. Do not hold hose or couplers while operating the pump.

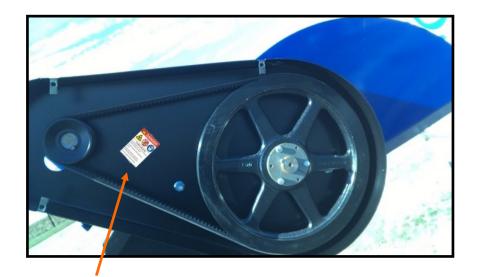
Ensure all couplers are properly tightened before operation. Release hydraulic pressure before disconnecting couplers. Wear eye and hand protection at all times.

DC-244

09-02-0033



#### **Drive Over Conveyor**







09-02-0010



## SECTION B

## **MECHANICAL OPERATION**



## **OPERATING SAFETY**

- Read and understand the Operator's Manual and all safety signs before using.
- Electric motor drives: Disconnect and disable electrical supply completely and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Clear the area of bystanders, especially children, before starting.
- Befamiliar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Do not allow riders on the Conveyor or transport vehicle when transporting.

- Stay away from overhead obstructions and power lines during operation and transporting. Electrocution can occur without direct contact.
- Do not operate machine when any guards are removed
- Lower Conveyor to its lowest position before moving or transporting or when not in use.
- Inspect lift cable before using Conveyor. Replace if frayed or damaged.
- Make certain lift cable is properly seated in cable pulleys.
- Be sure that conveyor is empty before raising or lowering.

The Drive Over Conveyor is designed to efficiently move seed from a truck to a transfer conveyor. Power is provided by an electric motor. Be familiar with the machine before starting.

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.

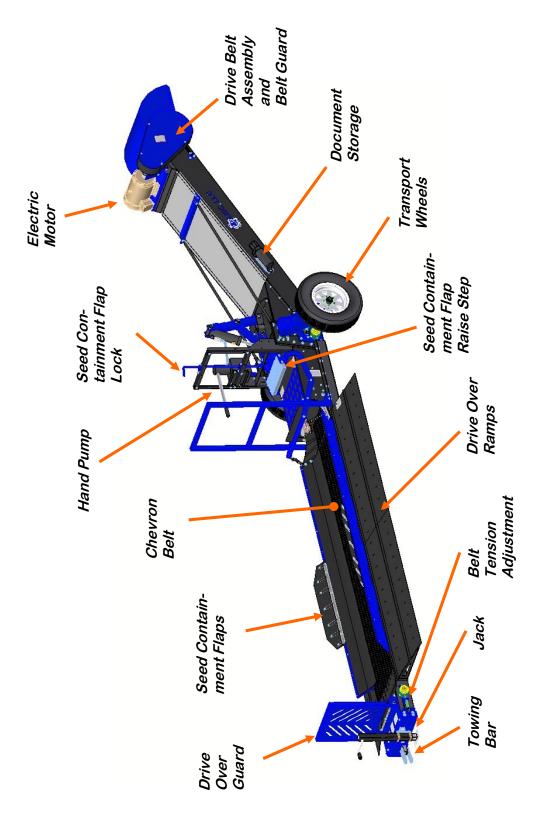


Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

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.



## **CONVEYOR OVERVIEW**





Have a licensed electrician provide power to the machine per the National Electrical Code ANSI/NFPA 70 and local codes. For customer safety and ease of use, a motor disconnect switch may be mounted on the conveyor depending on options ordered.

Conveyors supplied with cord kits and/or used with USC control packages can be directly wired or plugged into the USC control panels for controlling on/off and supplying motor overload protection. If conveyor is not controlled by a USC control panel, end-user will be responsible for ensuring that motor thermal overload protection is provided.

## PRE-OPERATION CHECKLIST

Efficient and safe operation of the Drive Over 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. All hardware is installed and tightened properly.
- 3. Check the drive chain on head section to ensure alignment and tension.
- 4. Check conveying belts for fraying or other damage and that they are properly adjusted and aligned. Section D, Maintenance (see page 23).
- 5. Service the machine per the schedule outlined in Section D, Maintenance (see page 24).
- 6. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
- 7. Check worksite. Clean up working area to prevent slipping or tripping.
- 8. Use only an electric motor with adequate power.
- 9. Be sure conveyor wheels are chocked.
- 10. Check that discharge and intake areas are free of obstructions.



## **CONVEYOR SET-UP**

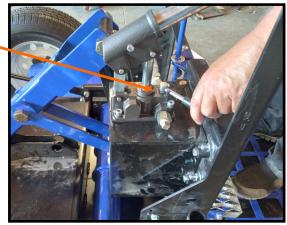
The following steps outline the initial set-up of your Drive Over Conveyor

- 1. Clear the area of bystanders before starting the equipment.
- 2. Move the conveyor into its working position leaving enough clearance from other equipment.
- 3. Lower the wheels all the way down using the lever on the hydraulic hand pump.



Do not allow the discharge end of the conveyor to rest on anything when lowered.

4. On the tail of the conveyor, lower the jack all the way down so the ramps are flat on the ground.



5. Lower the seed containment flaps onto the ramps by releasing the step in the center of the conveyor. Push down on the step and rotate the pin off to the side to allow the step to raise all the way up.





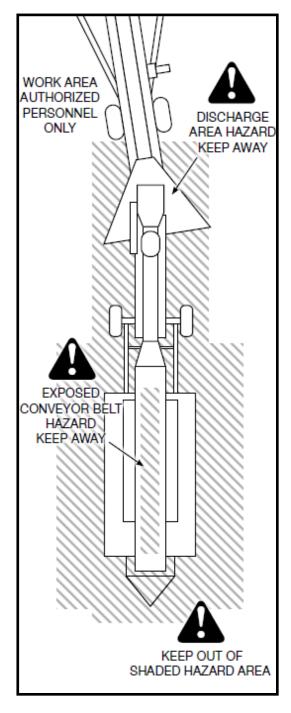


6. Raise up the guard on the tail section of the conveyor and use the pins to lock in place.





7. 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.



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



#### **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 23).
- 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.

#### **EMERGENCY STOPPING**

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



#### 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 25).

#### 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 belt tension on conveyor.
- 5. Check conveying belt tension and alignment. Tension or align as required.
- 6. Then go to the normal servicing and maintenance schedule as defined in the Maintenance Section.



## **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 16) before starting.
- 3. Review the Workplace Hazards schematic and use extra care when inside the hazard area. (see page 18). Keep all bystanders out of this area. Should anyone enter this area, stop the machine immediately.
- 4. With the conveyor wheels lowered all the way down and the containment flaps lowered, drive truck up over the conveyor until the bottom opening of the trailer is over top of the conveyor belt.
- 5. Turn on motor to the conveying conveyor belt.
- 6. Begin the flow of material from the truck to the conveyor. For best results, feed the belt as fast as the conveyor can take it away.
- 7. To stop the conveyor; stop the flow of material into the conveyor and run until the belt is empty, then turn off the conveyor.



Do not drive on conveyor while belt is running, this can cause injury and/or damage to conveyor.



# TROUBLESHOOTING

Below is a table describing the most frequent problems and solutions with the Drive Over Conveyor. For further assistance, contact your authorized dealer.

Problem	Possible Cause	Solution	
Conveyor will not run.	<ol> <li>Not turned on.</li> <li>Conveying belt loose.</li> <li>Drive belt loose.</li> </ol>	<ol> <li>Start power source or turn power on.</li> <li>Tighten and align belt.</li> <li>Tighten drive belt.</li> </ol>	
Belt edge fraying.	Belt not aligned.	Align and tension belt.	
Low conveying capacity.	<ol> <li>Slow operating speed.</li> <li>Conveyor belt slipping.</li> <li>Drive belt slipping.</li> </ol>	<ol> <li>Increase operating speed.</li> <li>Tighten belt.</li> <li>Set drive belt tension.</li> </ol>	

## <u>Unplugging</u>

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

- 1. Place all controls in neutral or off, stop motor, disable and lock out power source before unplugging.
- 2. Unbolt and remove the necessary conveyor covers.
- 3. Remove built up material.
- 4. Install and secure conveyor covers.



## **MAINTENANCE**

SECTION D

Proper maintenance of the Drive Over Conveyor 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 pully. 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 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.



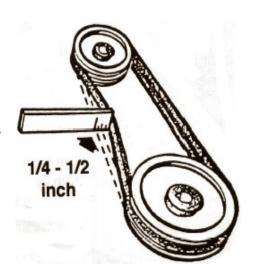
If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.



## **CONVEYOR SERVICING INTERVALS**

## **Every 40 hours or Weekly**

- 1. Check the conveyor belt tension and alignment.
- 2. Grease conveyor bearings.
  - A. Two bolt flanged bearings, tail roller bearings right and left (2 locations).
  - B. Two bolt flanged bearings, drive roller bearings right and left (2 locations).
  - C. Two bolt flanged bearings, jackshaft bearings right and left at transition (2 locations).
- 3. Remove guard and check the drive belt tension and alignment. The belts will deflect approximately 1/4 to 1/2 inch when properly tensioned.





**Every 200 hours or Annually** 

- 1. Wash machine.
- 2. Check pulley bushing for wear. To inspect pulley:
  - A. Loosen and remove the bolt.
  - B. Inspect the bushing on the pulley for wear.
  - C. Reverse steps A & B for re-assembly.



## **CONVEYING BELT TENSION AND ALIGNMENT - TAIL END**

A 24-inch textured belt 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.



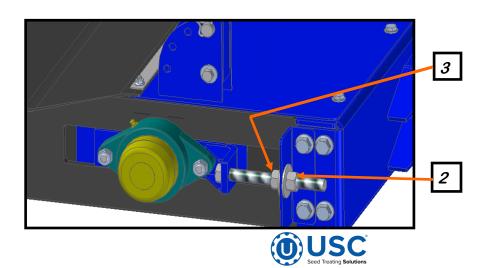
Although it is acceptable to align the belt from either the Head or the Tail end. Tightening the belt may only be done from the Tail end of the conveyor

To maintain the belt, follow this procedure:



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

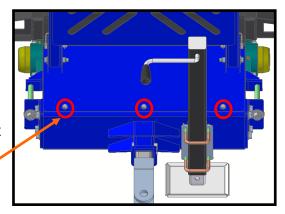
- 1. If the belt needs to be tightened to prevent slippage, use the take-up adjustments on the tail end only. Removal of the rear belt cover may be required.
- 2. Loosen the rear jam nut closest to the tail prior to making adjustments.
- 3. To tighten the belt, turn the remaining jam nut counter clock-wise by an equal number of turns, or employ a tape measure to ensure the tensioner plate's uniform distance from the back of the conveyor on both sides. It's crucial to set the tensioner plates equally, ensuring the conveyor belt is tightened sufficiently to prevent slipping on the drive roller. Loose belts may produce noticeable sounds, causing a slowdown in belt movement.
- 4. 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
- 5. 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.
- 6. The belt is properly aligned when the belt runs in the center of the head and tail rollers.



## **CONVEYING BELT ALIGNMENT**

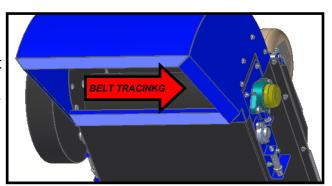
#### **Before Aligning the Belt**

- 1. The conveyor must be empty of all seed.
- Wait until the belt makes a complete revolution before adjusting the rollers. Some belts may have uneven edges, appearing misaligned.
- 3. To obtain a clear view of the belt alignment, it may be necessary to remove the rear belt cover. Simply detach the cover by loosening the three bolts circled in red.



## **Belt Alignment, Head Rollers & Transition Rollers**

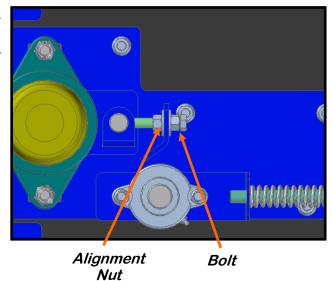
1. Determine if the belt is out of alignment. Start with the head roller. If belt is tracking toward tensioner as shown in diagram to the right, then adjust tensioner as shown in next steps.



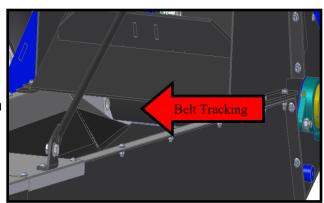
Loosen nuts on bearing.
 Loosen jam nut.



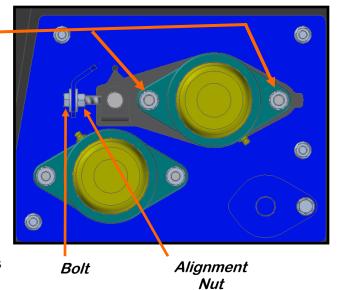
 Hold bolt with wrench and rotate alignment nut towards bearing to allow belt to track back to center. Rotate nut opposite direction if belt is tracking to the opposite side of conveyor.



5. Next check the alignment at the transition section. A top cover may need to be removed to get a good view of belt alignment. If belt is tracking toward tensioner as shown in diagram to the right, then adjust tensioner as shown in next steps.



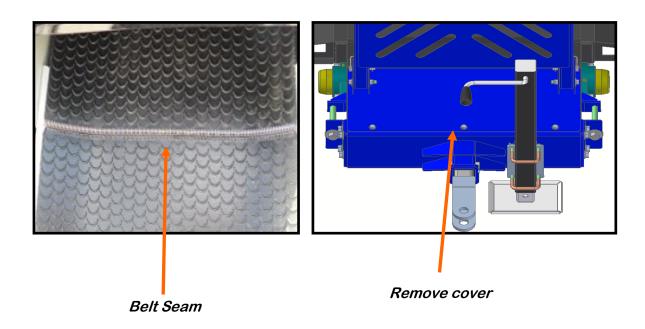
- 6. Loosen nuts on bearing.
- Loosen nut with wrench and turn bolt counter clock-wise to allow belt to track back to center. Rotate nut opposite direction if belt is tracking to the opposite side of conveyor.
- 8. Check the belt alignment and repeat necessary steps if out of alignment. If belt is aligned and ready for use. Replace all covers and re-torque all bolts and nuts.





## **BELT REPLACEMENT**

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





## **DRIVE BELT TENSION & ALIGNMENT**

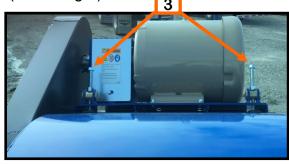
Power to the conveying belt is transmitted through a V-belt. The V-belt drive system must be maintained at the proper belt tension and pulley alignment to obtain the desired performance and life. When maintaining the belt drive system follow this procedure:



Turn motor off and unplug power cord or turn off power and lock out the master panel before starting maintenance on drive belt system.

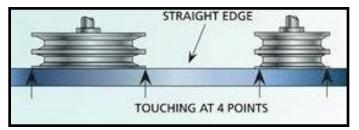
#### **Drive Belt Tension**

- 1. Push on the center of the belt span with a force of approximately 5 to 10 lbs.
- 2. Follow the belt tensioning specification on page 29 to determine proper belt deflection.
- 3. Back off the jam nuts, then move the motor up using the adjustment bolts. When the tension is correct, tighten the jam nuts. (middle right)
- 4. Attach and secure guards.



## **Drive Belt Alignment**

- 1. Lay a straightedge across the pulley faces to check the alignment (bottom).
- 2. Use the pulley hub to move the pulley to the required position for alignment.
- 3. Tighten hub bolts to secure pulley on shaft.
- 4. Check belt tension
- 5. Close and secure guards.



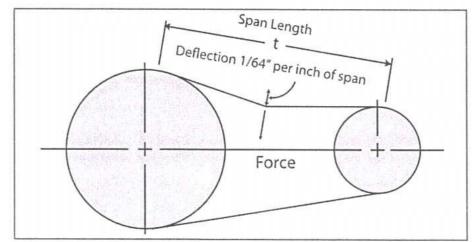
#### **Drive Belt Replacement**

- 1. Lower motor to its loosest position.
- 2. Remove old belt and replace with a new one.
- 3. Raise motor to set the belt tension.
- 4. Check pulley alignment. Adjust if required.
- 5. Close and secure guards.



#### **Drive Over Conveyor**

V-Belt tensioning adjustment can be made using a tension meter or other type spring scale using the following procedure. After seating the belts in the groove and adjusting center distance so as to take up the slack in the belts, further increase the tension until only a slight bow on the slack side is apparent while the drive is operating under load. Stop the drive and using the meter, measure the force necessary to depress one of the center belts 1/64 inch for every inch of belt span (see sketch below). For example, a deflection for a 50 inch belt span is 50/64 or 25/32 inch. The amount of force required to deflect the belt should compare with the deflection forces noted in the table below. Also notice for V- Belts that deflection forces vary from the initial RUN - IN values which are greater (reflecting higher run-in tensioning) to the NORMAL values for after the run-in period.



MEASURE THE SPAN LENGTH "T" AS SHOWN IN THE SKETCH ABOVE.

BELT	SMALLER PULLEY DIAMETER RANGE (inches)	DEFLECTION FORCE	
CROSS SECTION		RUN - IN (lbs)	NORMAL (lbs)
AX	3.0 - 3.6	4 - 1/8	2 - 3/4
	3.8 - 4.8	5	3 - 1/4
	5.0 - 7.0	6	4
ВХ	3.4 - 4.2	5 - 1/4	3 - 1/2
	4.4 - 5.2	7 - 1/8	4 - 3/4
	5.4 - 9.4	9	6



# STORAGE

SECTION E

When storing the Drive-over 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. If the machine cannot be placed inside, cover the electric motor with a water proof tarpaulin and tie securely in place.
- 10. Store machine in an area away from human activity.
- 11. Do not allow children to play on or around the stored machine.



## Drive Over Conveyor

## NOTES:



# USC LIMITED WARRANTY SECTION G

#### 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				
1/4/24	PWB				

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