

TS35 BIN FILL CONVEYOR

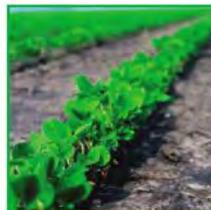


OPERATOR'S MANUAL

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Effective Date: 07-2020



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

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 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.



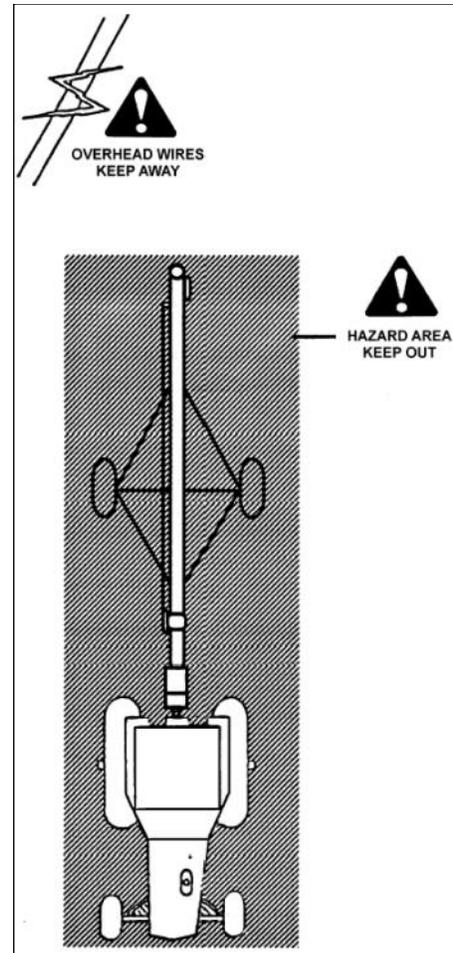
7. Review safety related items annually with all personnel who will be operating or maintaining the conveyor.

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.

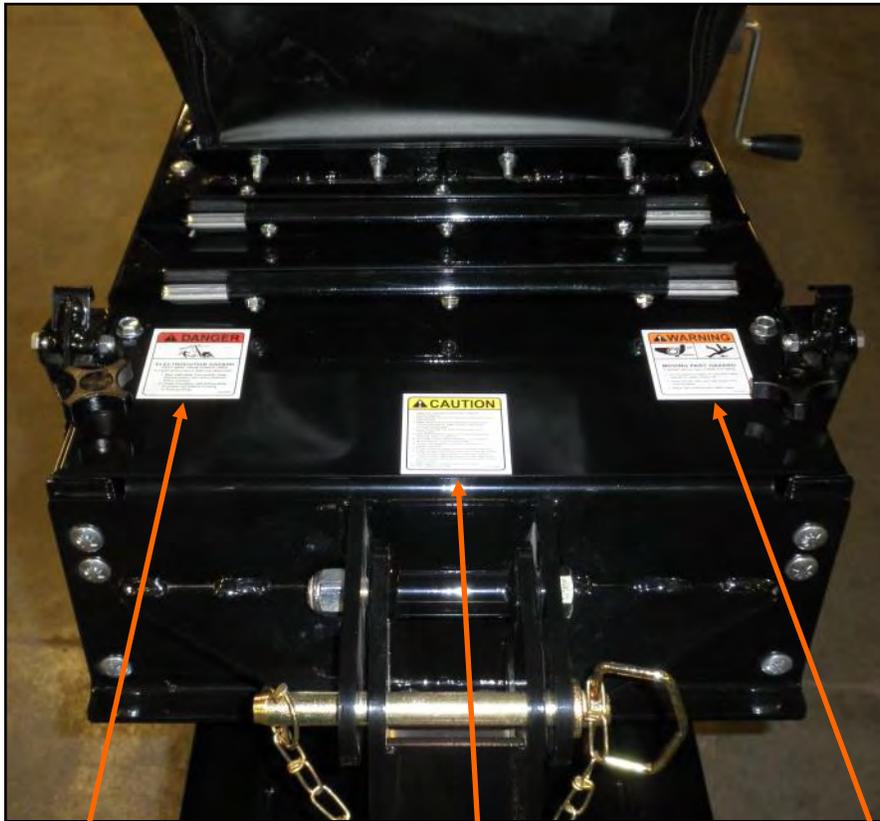


Located on the USC equipment you will find safety labels.
Always be sure to read and follow all directions on the labels.



Part # 09-02-0015

TS3500 BIN FILL CONVEYOR



⚠ DANGER

ELECTROCUTION HAZARD
KEEP AWAY FROM POWER LINES
 To prevent serious injury or death from electrocution:

1. Stay well away from power lines. Electrocution can occur without direct contact.
2. Lower Conveyor well below level of power line before moving or transporting.

09-02-0007

Part # 09-02-0007

⚠ CAUTION

1. Read and understand the Operator's Manual before operating.
2. Keep all safety shields and devices in place and in good working order.
3. Make certain everyone is clear before operating or moving the machine. Keep children, visitors and untrained people away.
4. Keep hands, feet, hair and clothing away from moving parts.
5. Shut off and disable power source before adjusting, servicing, repair, or cleaning.
6. Disconnect power before resetting motor overload.
7. Be sure electric motors are grounded.
8. Support discharge end or anchor intake end to prevent upending.
9. Empty Conveyor before moving to prevent upending.
10. Lower conveyor to its fully down position before moving or transporting. Use a tractor to move and transport.
11. Lower Conveyor well below level of power lines before moving or transporting. Electrocution can occur without direct contact.
12. Keep away from intake. Keep others away.
13. Train operators annually.

09-02-0006

Part # 09-02-0006

⚠ 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

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



Part # 09-02-0008



Part # 09-02-0009

TS3500 BIN FILL CONVEYOR



Part # 09-02-0011



Part # 09-02-0010



Part # 09-02-0012

SECTION B INSTALLATION



HIGH VOLTAGE ~ Always disconnect the power source before working on or near the control panel or lead wires.



HIGH VOLTAGE ~ Use insulated tools when making adjustments while the controls are under power.



Two forklifts will be required to assemble the conveyor.

UNDERCARRIAGE ASSEMBLY

The use the following steps to assembly the TS3500 Bin Load Conveyor. Before you begin, clear the area of bystanders, especially small children. Ensure there is enough clearance from overhead obstructions and power lines. It is important to test the conveyor after assembly by raising it to maximum height and lowering it into the cradle for transport several times. This is to verify it functions smoothly and does not bind or is unable to reach maximum height.

1. Remove axle assembly (13-08-0423) from the crate and place on the ground.



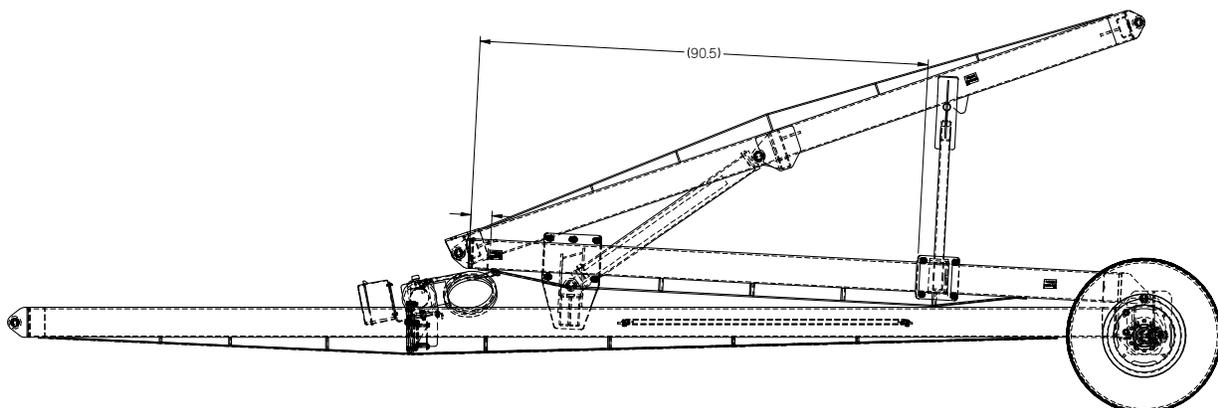
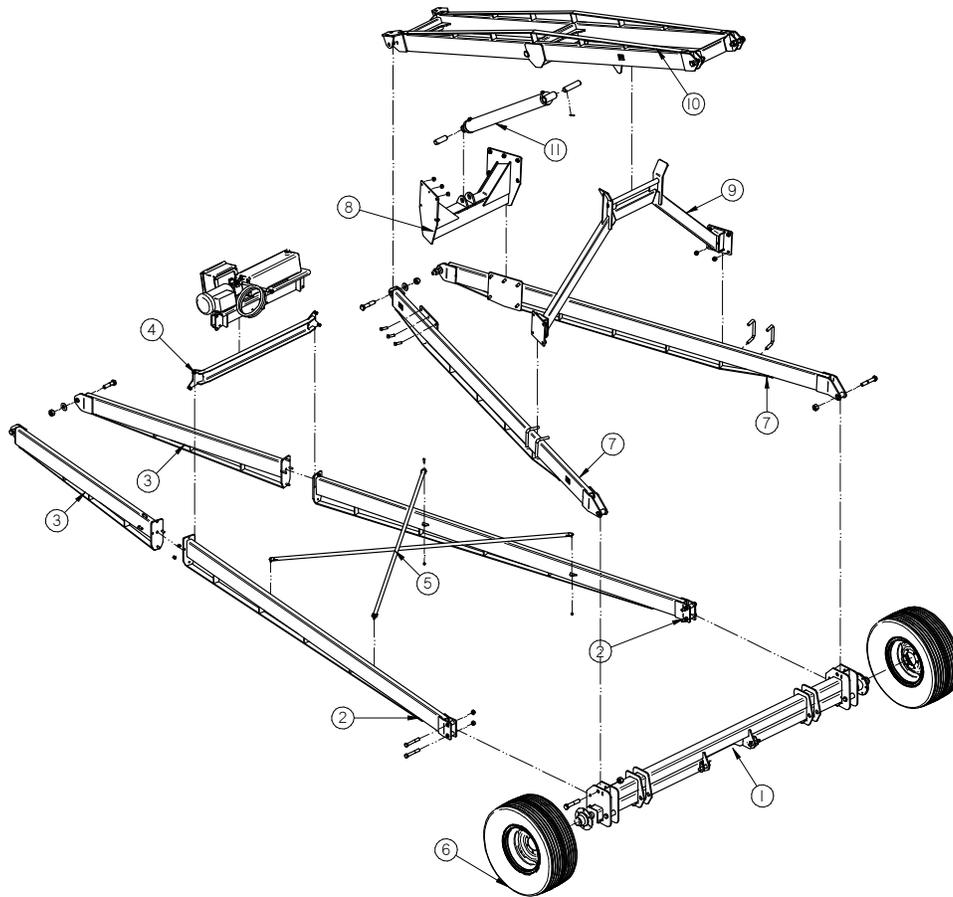
Only snug fasteners until the entire assembly is complete, then tighten all the fasteners.

2. Assemble the trailing arms (05-08-0226 and 05-08-0227) to axle using 3/4"-10 X 5.50 long bolts and Nylock nuts. Trailing arms should be mounted with gusseting down and angling inward towards each other.
3. Assemble the front trailing arms (05-08-0228 and 05-08-0229) to the trailing arms installed in step three using 1/2"-13 X 1.75 long bolts and Nylock nuts. Install the top and outside bolts only at this time. The arms should also be mounted with gusseting down and angling inward towards each other.
4. Assemble the cross brace (05-08-0230) to the trailing arm joints using 1/2"-13 X 1.75 long bolts and Nylock nuts. The cross brace is to be mounted on backside of the long trailing arm mounting plates, not between them. The cross brace channel should be facing the axle. If the optional Electric Power Pack is mounted to the brace, the control panel should be facing forward towards the open end of the trailing arms.

UNDERCARRIAGE ASSEMBLY

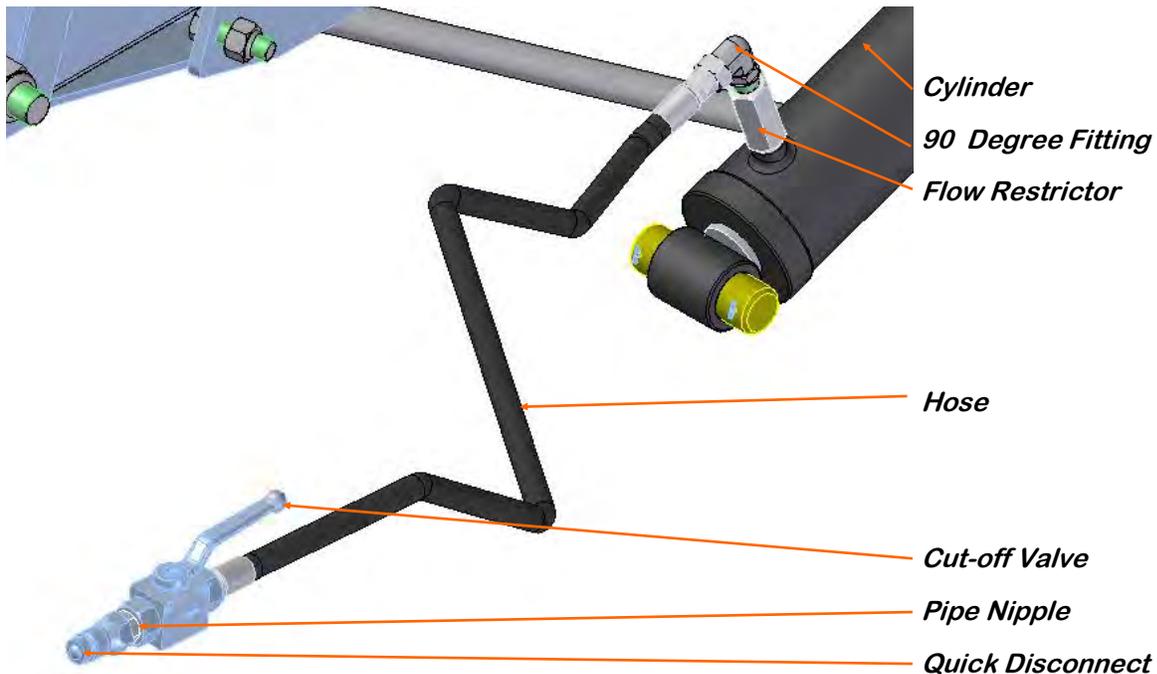
5. Assemble the diagonal cross braces (05-08-0253) to the inner side of the trailing arms using 3/8"-16 X 1.00 long bolts and Nylock nuts. The cross braces should be mounted on the top of the ears on all four locations. This creates interference at the intersecting point of the braces eliminating any rattling of the braces during operation or transportation.
6. Raise high enough to assemble the wheels. Assemble the wheels (01-06-0096) on each end of the axle using the lug bolts provided with the axle. The wheels should be oriented so the tires are the farthest from the axle assembly
7. Lay an eight foot long 2"X4" piece of wood across the long trailing arms about two feet behind the cross brace and or Electric Power Pack. This will be used to hold the front end of the hinges up. Assemble the left and right half hinges (05-08-0306 and 05-08-0307) by placing the front ends on the 2"X4" to hold them up while assembling the back ends to the axle using 1"-8 X 5.50 long bolts and Nylock nuts. The two bolts should be on the outside. The hinges should be installed with the gusseting downward and angling inward.
DO NOT overtighten these fasteners on final assembly (hinge points must move freely).
8. Assemble the cylinder mount (05-08-0305) between the hinges using 5/8"-11 X 2.00 long bolts and nylock nuts.
9. Using the reference dimension on page 18, assemble the hinge support (05-08-0308) to the trailing arms using 3/4"-10 U-Bolts and Nylock nuts. The support will need to be located after the upper hinge is assembled.
10. Use a forklift to suspend the upper hinge (05-08-0442) over the center of the assembly with the bracket for the hydraulic cylinder mount facing forward. Slowly lower the hinge until the upper end rests in the cradle and the lower end drops down and lines up with the ends of the left and right hinges. Assemble the two pieces using 1"-4 X 4.00 long bolts and Nylock nuts. The bolts should be on the outside and the flat washer between the lower hinge and the upper hinge on both sides. The washers provide a bearing surface for the hinges to pivot on. DO NOT overtighten these fasteners on final assembly. While still attached to the forklift, raise upper end and use a wood block and hammer to tap the base of the support to locate it so the support shaft is located above the latch plates Assemble the hydraulic cylinder assembly (03-17-0089).

11. The piston end attaches to the cylinder mount and the tube end attaches to the upper hinge. The cylinder ports should be positioned on the top side. This will allow the tube portion to move with the upper hinge as the conveyor is being raised. Assemble the piston end using cylinder pin (102923) and two .125 X 2.00 cotter pins. Use the cylinder pin (102922) and two cotter pins to attach to the upper hinge.



HYDRAULIC HOSE ROUTINGS.

WITHOUT OPTIONAL POWER PACK.



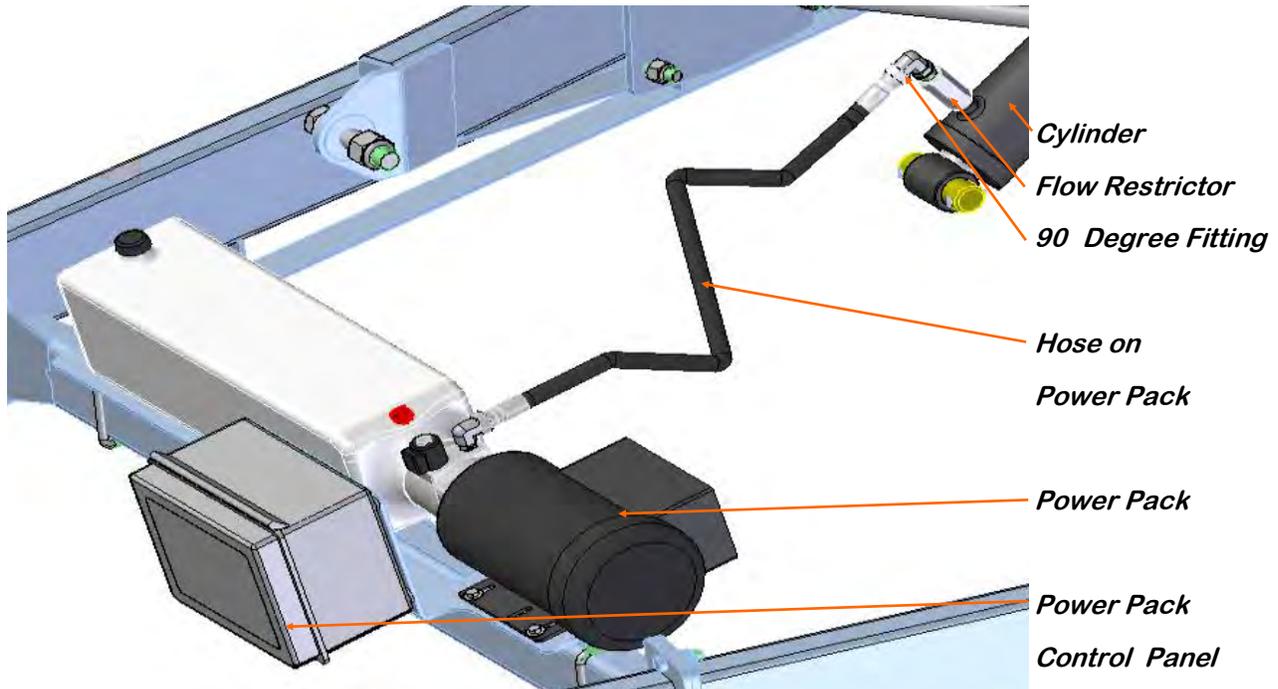
NOTICE

Use Teflon tape on all hydraulic hose and valve connections to prevent hydraulic leaks under pressure.

1. Replace the top plug on the cylinder with the breather valve from the parts bag.
2. Replace the bottom plug on the cylinder with the flow restrictor and elbow from the parts bag.
3. Connect the 50 foot length of hydraulic hose to the elbow on the bottom of the cylinder.
4. Secure hoses to undercarriage with zip ties, allowing adequate slack to permit the undercarriage to raise and lower fully.
5. Install shut-off valve, pipe nipple, and quick disconnect to the other end of the hose.
6. Turn off the shut-off valve when the tractor is not running to secure the conveyor in position and prevent bleed down.
7. Cycle the undercarriage up and down several times to verify that it moves smoothly and does not bind.

HYDRAULIC HOSE ROUTINGS.

WITH OPTIONAL ELECTRIC POWER PACK.



NOTICE

Use Teflon tape on all hydraulic hose and valve connections

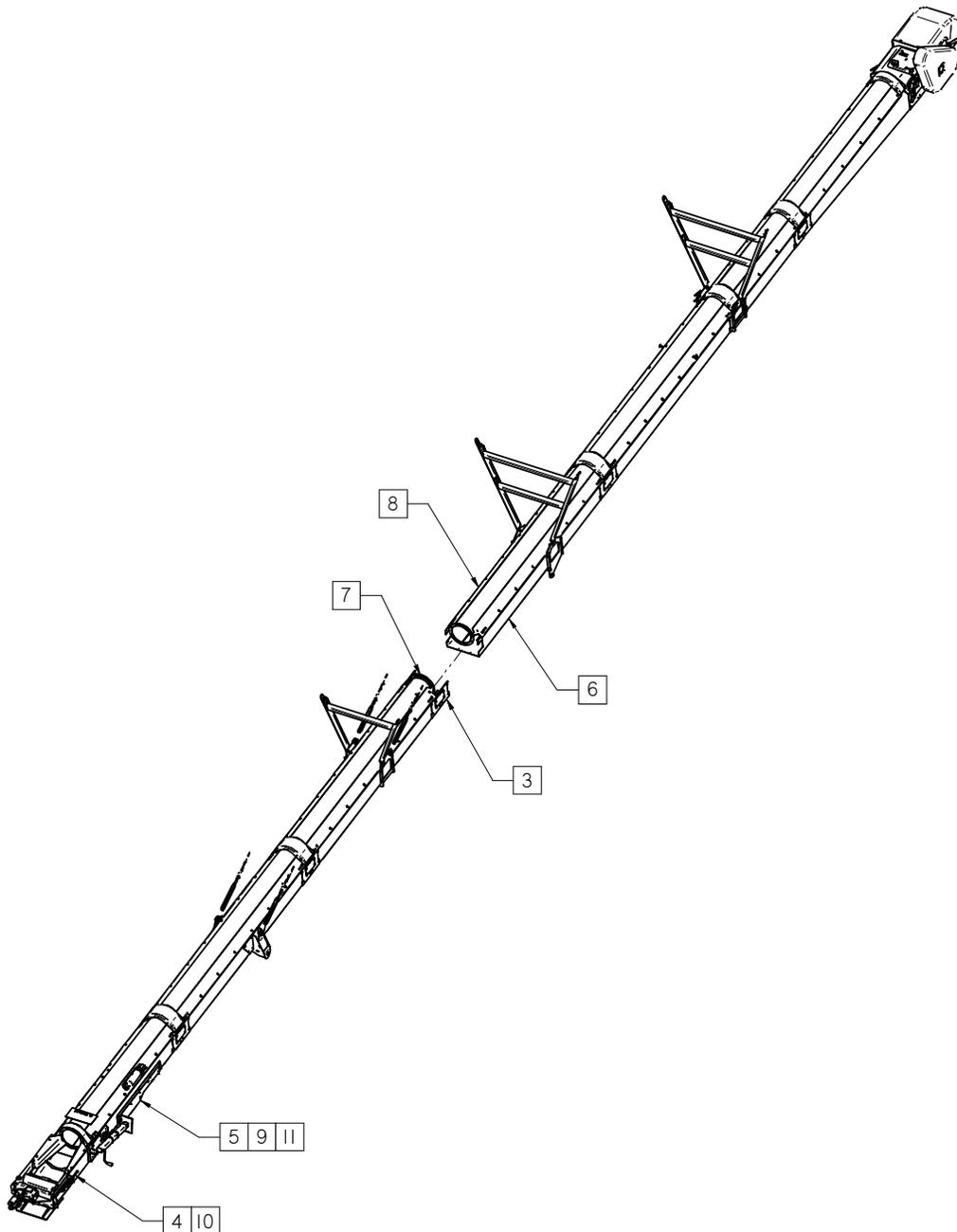
1. Attach power pack centered to the cross beam as shown in the drawing above, with the control panel facing the hitch end of the conveyor. Use U-Bolts to attach it to beam.
2. Replace the top plug on the cylinder with the breather valve from the parts bag.
3. Replace the bottom plug on the cylinder with the flow restrictor and 90 degree coupler from the parts bag into the bottom plug on the cylinder.
4. Run the hydraulic hose (part of the power pack) to the 90 degree elbow on the cylinder.
5. Secure hoses to undercarriage with zip ties, allowing adequate slack to permit the undercarriage to raise and lower fully.
6. Have a licensed electrician install connector on end of cable and connect to power, Note: voltage is 240v / 1ph.
7. Cycle the undercarriage up and down several times to verify that it moves smoothly and does not bind.

CONVEYOR ASSEMBLY

Use the assembly views and steps on pages 20 through 21 to assemble the conveyor head half, tail half and cable supports. The example shown is a TS3565.

NOTICE

From this point forward, all references to left and right will be if you were standing at the conveyor hitch and looking at the conveyor head. Unlike the undercarriage, all hardware on the conveyor should be fully torqued as assembled.



CONVEYOR ASSEMBLY

1. In addition to the parts in the parts bucket, some parts are shipped in the manual tube holder. Remove these and place with parts from the parts bucket.
2. The inlet half and the head half must be raised off the ground at least three feet and aligned to be assembled. Use a forklift to lift each half and align the two. The two halves should be at least two feet apart.
3. Pull together the belts that are in both tubes. Flatten out both ends and mesh them together. Ensure that the outside edges are even and aligned. Insert the wire connector.
4. On both sides of the inlet end, loosen the outside jam nuts of the take up adjustment and slide the roller as far towards the middle of the conveyor as possible.
5. Remove the cleanout compartment from under the inlet half.
6. There is a rope attached to the bottom end of the belt in the head half. Feed the end of the rope into the inlet half under the tube and push it down until the end can be reached from the cleanout opening.
7. From the cleanout opening, pull the rope until the belt is out of the head half. Take hold of the end of the belt and feed it into the inlet half. Continue pulling on the rope until the belt is taught halfway through the cleanout.
8. Slowly slide both halves together until they mate. Bolt the tubes together using six 3/8"-16 X .75 long bolts and serrated lock nuts. Remove the access plates on both sides of the splice. Bolt the head half to the splice using four 3/8"-16 X .75 long short neck carriage bolts and serrated lock nuts. Replace the splice covers and the tube connection cover (05-06-0122).
9. From the cleanout access, pull the two ends of the belt together and connect using the same method as in step 3.
10. Slide the take up roller until all of the slack is out of the belt. Use the adjustment bolts and jam nuts until the belt is snug.
11. Re-install the cleanout compartment. Remove the two blue shipping brackets. One is mounted on the head assembly and the other is on the tail section in front of the undercarriage mounting bracket.

CABLE SUPPORT ASSEMBLY

NOTICE

The cables and other parts will be strapped to a pallet. The cable clamps, thimbles and mounting hardware will be in the parts bucket

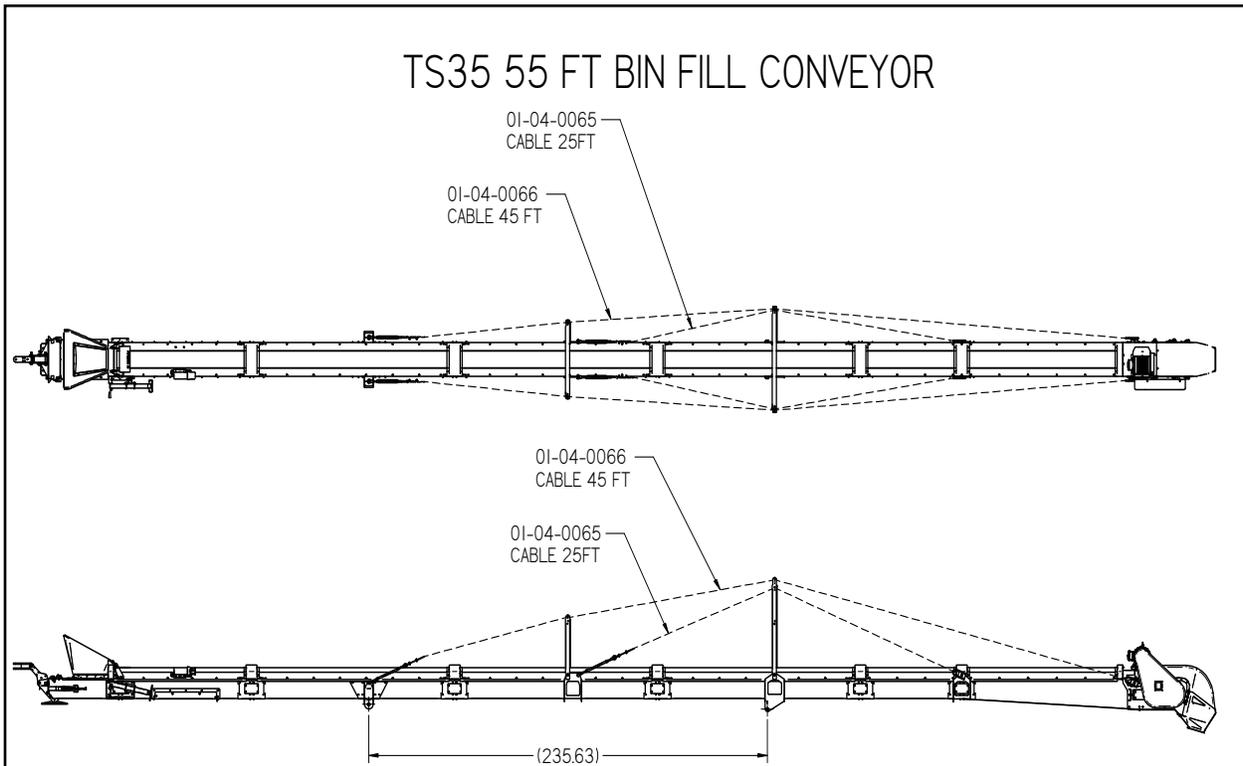
1. Assemble the short cable support (13-08-0593) to the rear set of holes on the cable support bracket using two 1/2"-13 X 1.75 long bolts and Nylock nuts.
2. Assemble a tall cable support (13-08-0594) to the front undercarriage bracket using two 1/2"-13 X 1.75 long bolts and Nylock nuts. On the TS3565 a second tall support will be mounted in front of the rear cable swivel attachments. On the TS3570 there will be a third support that will be mounted in front of the second support. See table and drawings on page 24 through 25
3. Adjust all four turnbuckles (06-12-0041) until there is approximately 1/4" of thread on the inside at both ends.
4. Secure one end of each of the four cables, two 25 foot and two longer ones (see pages 22 through 24) to a turnbuckle by placing a thimble in the eyelet end and running a cable through the thimble and running about five inches past the thimble on the other side. Secure with one cable clamp at the thimble and another four inches farther down. Fully tighten all eight clamps.
5. Run the 25 foot cables first by attaching the yoke end of the turnbuckles to the front mounting holes on the short support bracket. Then run them over the tall support through a cable clamp in the bottom set of holes on the support. The clamp should be tightened until snug. If too loose, the clamp will not be able to fully fasten after tensioning. If too tight, the cable will not be able to slide through providing even tension along the entire length of the cable. Attach the end of the cables to the rear swivel mounts on the conveyor using a thimble and two clamps. Pull as much slack out of the cables as possible before tightening clamps.
6. Run the two longer cables by attaching the yoke end of the turnbuckles to the lower undercarriage mounting bracket over the short cable support then the top of the tall supports attaching the cable with clamps the same way. The longer cables will terminate at the front two swivel mounts at the drive assembly.

CABLE SUPPORT ASSEMBLY

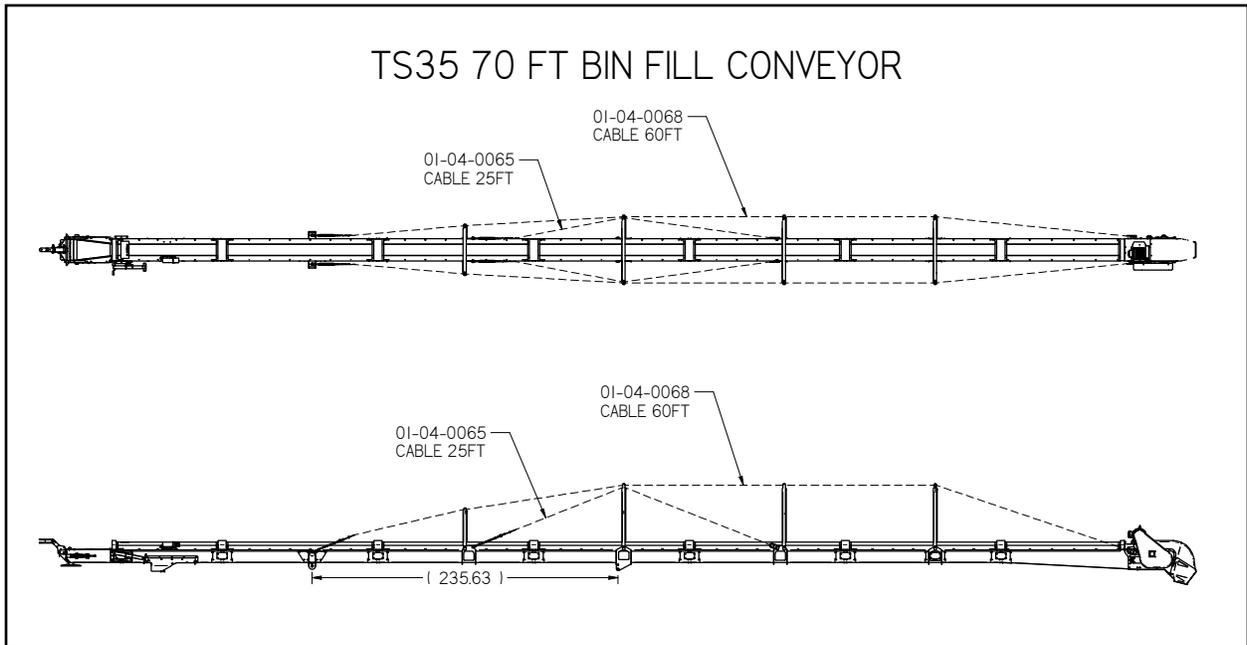
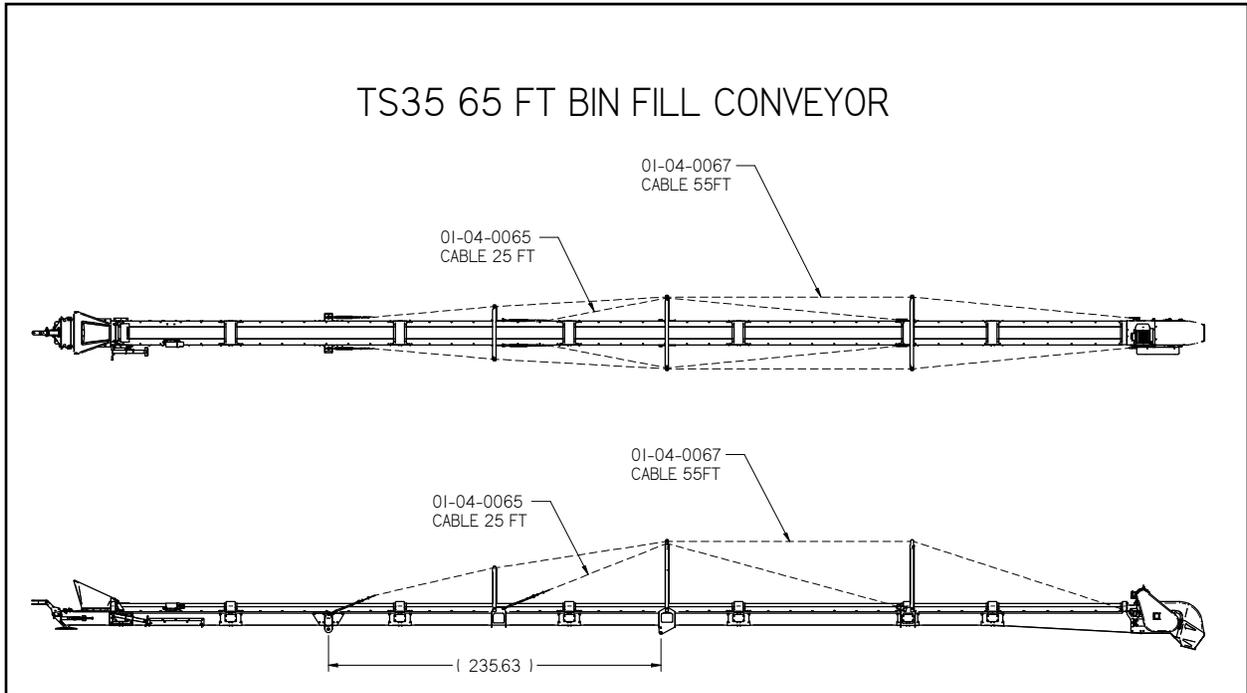
NOTICE

Check the line of sight from the front to back of the conveyor during the tightening process. It may be necessary to take a few extra turns on one or more of the turnbuckles if you see that the conveyor is twisting. Tighten enough to snug cables. When complete, the conveyor should be straight. Final tensioning will be after the assembly is complete.

TS35 BIN FILL CABLE KITS	Part Number	55 Foot	65 Foot	70 Foot
		13-08-0597	13-08-0598	13-08-0599
		Quantity	Quantity	Quantity
WIRE ROPE .313 DIA x 25FT	01-04-0065	2	2	2
WIRE ROPE .313 DIA x 45FT	01-04-0066	2	N/A	N/A
WIRE ROPE .313 DIA x 55FT	01-04-0067	N/A	2	N/A
WIRE ROPE .313 DIA x 60FT	01-04-0068	N/A	N/A	2
THIMBLE .250 WIRE ROPE	06-07-0023	8	8	8
CABLE CLIP WIRE ROPE .313	06-07-0026	16	16	16
TURNBUCKLE 5/8"-11 12" ADJUSTMENT	06-12-0041	4	4	4
SHORT CABLE ATTACHMENT	13-08-0593	1	1	1
TALL CABLE ATTACHMENT	13-08-0594	1	2	3



CABLE SUPPORT ASSEMBLY



ASSEMBLE CONVEYOR TO UNDERCARRIAGE

Use the assembly view and steps on pages 27 and 28 to assemble the conveyor to the undercarriage.

If the conveyor motor is a 3 Phase motor. Have a certified electrician provide power to the conveyor motor. Comply with local electrical codes and ensure that the system is properly grounded. Remove the drive belt guard and drive belt. Refer to the replace drive belt instructions at the bottom of page 50 in the maintenance section. Turn on the motor to verify that the driveshaft is rotating **CLOCKWISE**. If it is not, correct the incoming power. Replace the drive belt and set to the correct tension. Replace the drive belt guard.



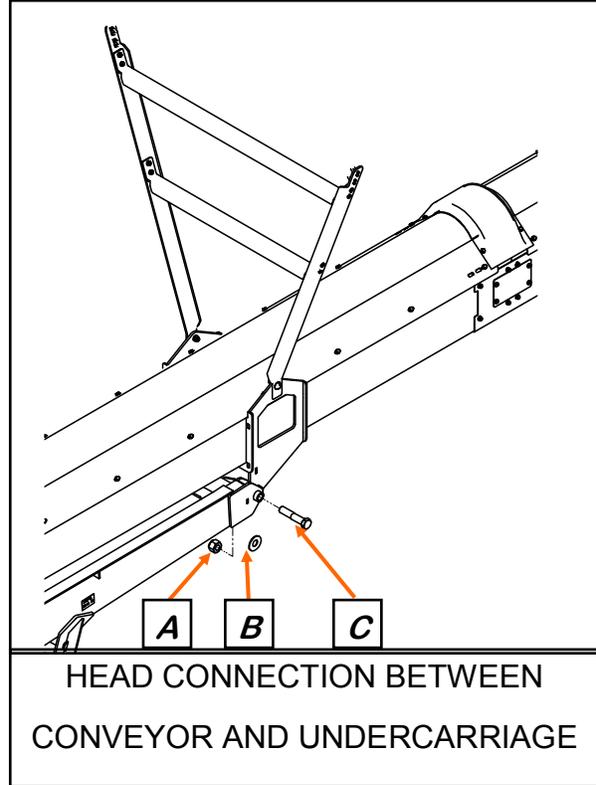
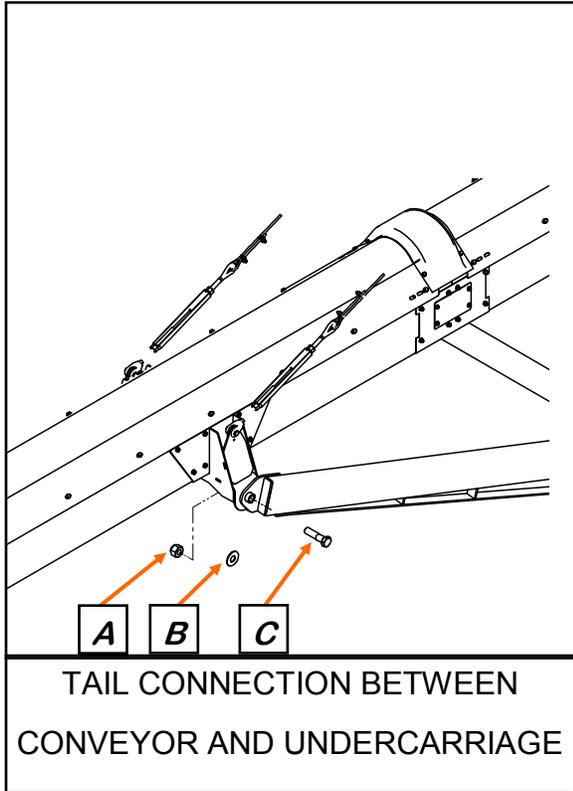
It is extremely important to wire the motor and verify correct rotation of the drive shaft. If the conveyor is run in reverse, the belt will be damaged and the belt warranty will no longer be valid.

1. Position the undercarriage next to the conveyor so that the mounting hole on the upper hinge of the undercarriage is aligned to the mounting hole on the front mounting bracket of the conveyor.
2. Using pallets or some other type of wood, place a forklift under each end far enough to the front and back so it will not interfere with the undercarriage. Slowly raise the conveyor. It should be raised as level as possible until it the front mounting bracket will clear the undercarriage. Move the conveyor forward over the undercarriage until they are as centered as possible.
3. Slowly lower the conveyor evenly until the hole in the conveyor mounting bracket aligns with the mounting hole in the upper hinge. Connect the two assemblies using the 1"-8 X 4.00 long bolts, 1" flat washer and Nylock nuts. Install the washer between the conveyor bracket mounting ear and the upper hinge on both sides. The washers provide a bearing surface for the hinges to pivot on. **DO NOT overtighten these fasteners. The conveyor must pivot freely at this location.**
4. Slowly lower the head end but leave the forklift in place. Slowly lower the tail end of the conveyor until the conveyor pad is resting on the ground. Move the tail end forklift and position it to pick up the trailing arms of the undercarriage. Slowly lift them until the mounting holes align with the mounting ears on the conveyor. Connect the two using the 1"-8 X 4.00 long bolts, 1" flat washer and Nylock nuts. **DO NOT overtighten these fasteners. The conveyor must pivot freely at this location.**

ASSEMBLE CONVEYOR TO UNDERCARRIAGE

5. Review conveyor alignment with undercarriage. The upper hinge should be resting in the cradle evenly. The cylinder and mount should be centered. Tighten all fixed undercarriage fasteners at this time. **Check to see that all fasteners at pivot points are snug but allow freedom of movement.**
6. Final cable tensioning should be set at this time. Use a forklift on the head end to raise the conveyor until it looks level. Tighten turnbuckles until completely tight and conveyor is square and level. Lower the forklift and re-check. If still square and level tensioning is complete.
7. Tighten both locknuts on all four turnbuckles and fully torque all cable clamps on the supports.
8. Use the conveyor belt take up plates to properly tension the belt. See Maintenance section on page 49 for detailed information.
9. Have a licensed electrician connect power cord with male plug to motor. Secure cord to conveyor with zip ties allowing enough slack for the conveyor to raise and lower without damaging the cord.
10. Cycle the conveyor up and down several times to verify that it moves smoothly and does not bind.

ASSEMBLE CONVEYOR TO UNDERCARRIAGE

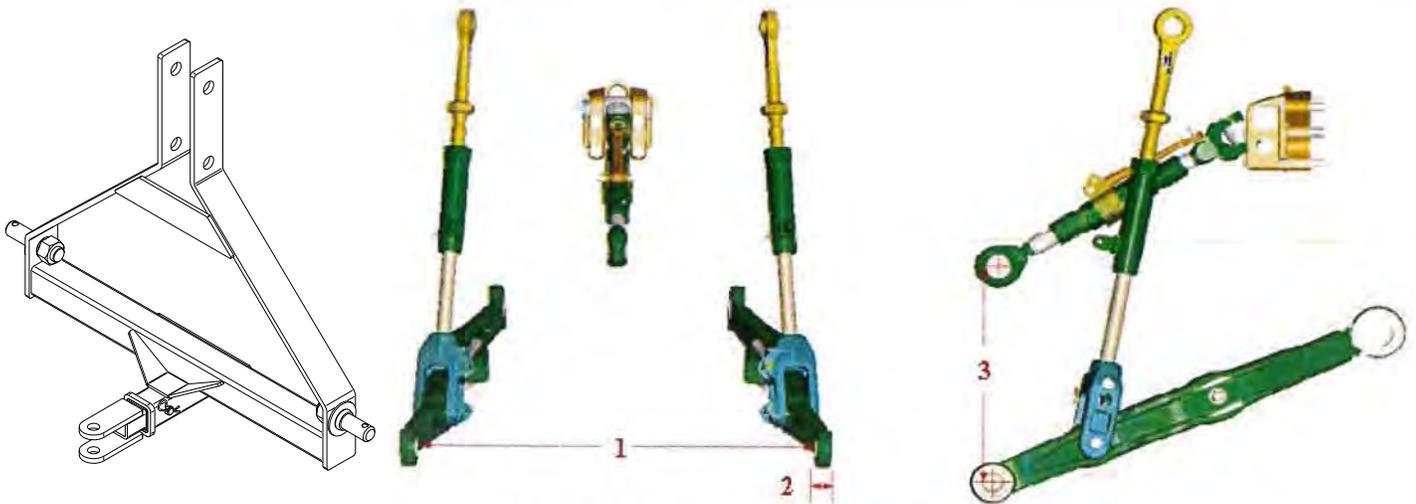


HEAD & TAIL CONNECTORS			
IDENTIFIER	PART #	DESCRIPTION	QTY
A	06-02-0056	NUT 1.00-8 ZP GR5	4
B	06-05-0010	WSHR FLAT 1.00 ZP	4
C	01-06-0166	BOLT 1.00-8 X 4.00 ZP G8	4

3 POINT HITCHES

NOTICE

On some conveyors, a Three Point Hitch and Receiver will be shipped with the order. These will need to be installed if the customer is using a tractor to move the conveyor.



3 POINT HITCH		
COMPONENT	CATEGORY #2	CATEGORY #3
Upper link pin diameter	1.00 inches (25.4 mm)	1.25 inches (31.75 mm)
Upper link hole diameter	1.01 inches (25.65 mm)	1.26 inches (32.00 mm)
Lower link pin diameter	1.10 inches (27.94 mm)	1.44 inches (36.58 mm)
Lower link hole diameter	1.13 inches (28.70 mm)	1.47 inches (37.34 mm)
Lower hitch point span (1)	32.48 inches (825 mm)	37.99 inches (964.95 mm)
Width of ball (2)	1.77 inches (44.96 mm)	1.77 inches (44.96 mm)
Pin centerline - Lower to Upper (3)	24.02 inches (610.11 mm)	26.97 inches (685.04 mm)

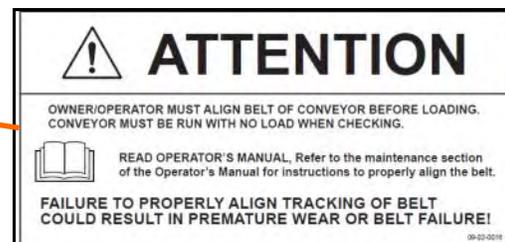
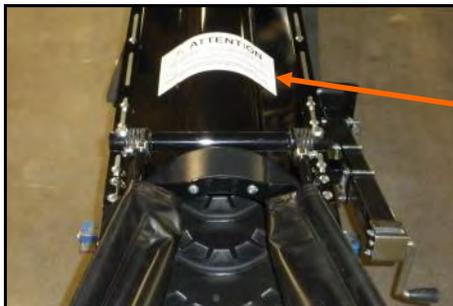
Have a licensed electrician provide power to the machine per the National Electrical Code ANSI/NFPA 70 and local codes. For customer safety and ease of use, a motor disconnect switch may be mounted on the conveyor depending on options ordered.

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.

FINAL ASSEMBLY CHECKLIST

The conveyor is now completely assembled. Raise and lower the conveyor several times and run the belt while going through the check list below to ensure the conveyor and undercarriage are operating correctly before using it to move seed. Ensure everything on the list below has been verified.

- Tires are properly inflated.
- Collapsible hopper folds and latch's properly.
- All hardware is installed and tightened properly.
- Hitch rotates, raises and lowers correctly, and hitch pin fits.
- Check the fluid level in the electric power pack reservoir.
- Conveyor raises and lowers in the full range smoothly.
- Hydraulic hoses are routed properly and move freely when raising or lowering.
- All of the hydraulic fittings are tight and free of leaks.
- The conveyor belt tracks correctly.
- The unit runs smooth and quiet with no belt interference.



Part # 09-02-0016

SECTION C

MECHANICAL OPERATION

OPERATING SAFETY

<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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.
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The Bin Fill Conveyor is designed to efficiently move seed between a truck, trailer or wagon to a seed bin. Conveyor lift is provided by an electric powered hydraulic lift.

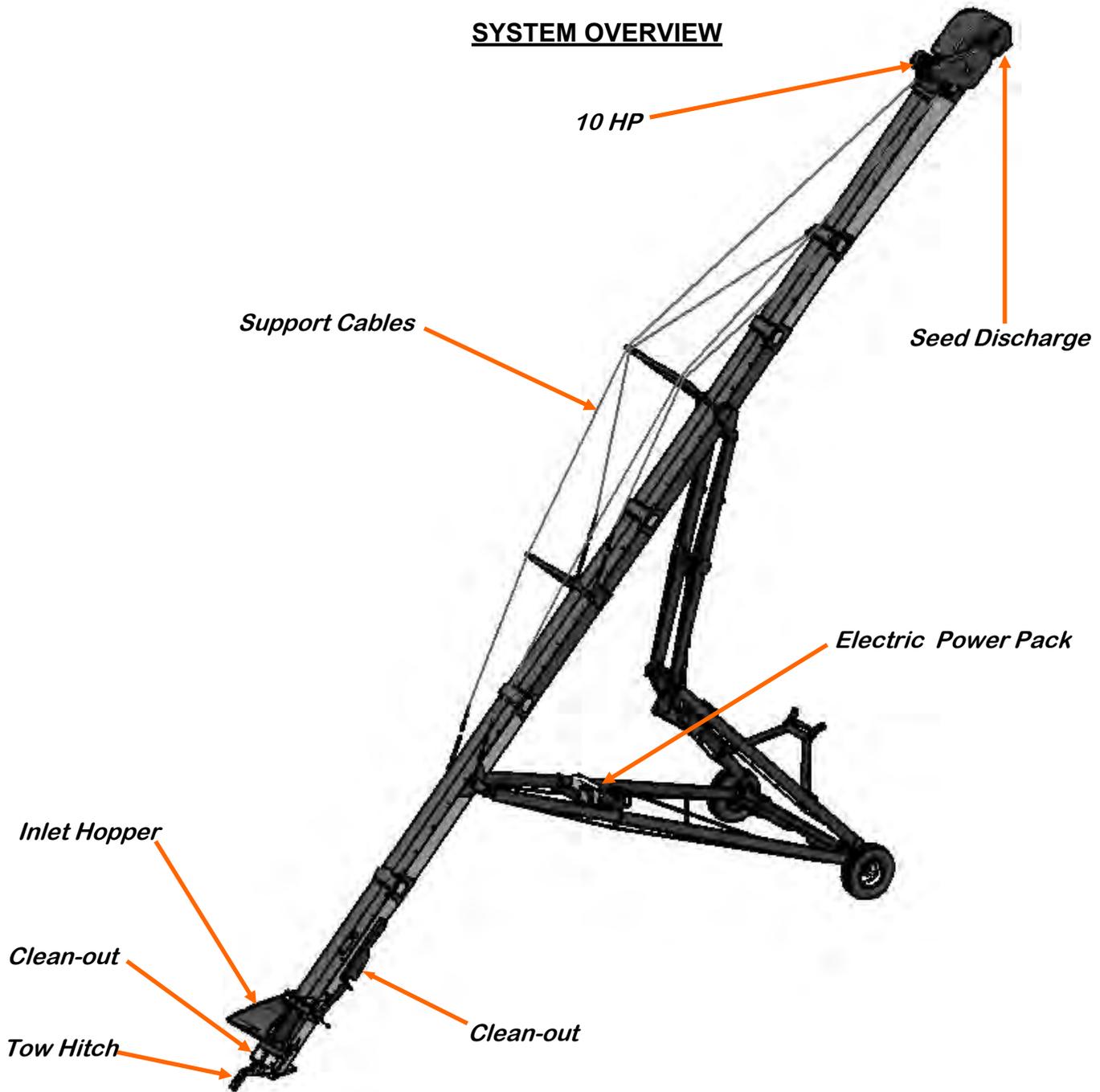
It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, and prudence of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

NOTICE

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



CONTROLS

- **Electric Drive:** Have a licensed electrician provide power to the motor per the National Electrical Code ANSI/NFPA 70 and local codes. Install an ON, OFF switch for the convenience of the operator.
- **Electric Power Pack:** Use the provided controls to raise or lower the discharge end of the conveyor. Have a licensed electrician provide power to the control box per the National Electrical Code ANSI/NFPA 70 and local codes.

PRE-OPERATION CHECKLIST



It is extremely important to wire the motor and verify correct rotation of the drive shaft. If the conveyor is run in reverse, the belt will be damaged and the belt warranty will no longer be valid.

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. Check that drive belt and conveying belt are not frayed or damaged and that they are properly adjusted and aligned. (refer to page 49)
2. Service the machine per the schedule outlined in Section F, Maintenance (see page 46).
3. Use only an electric motor of adequate power to operate the machine.
4. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
5. Check worksite. Clean up working area to prevent slipping or tripping.
6. Check the support cables for security. Inspect cable for fraying or damage and replace if damaged or frayed.
7. Check that hydraulic fittings are secure and not leaking hydraulic fluid.
8. Be sure conveyor wheels are chocked.
9. Check that discharge and intake areas are free of obstructions.

CONVEYOR SET-UP

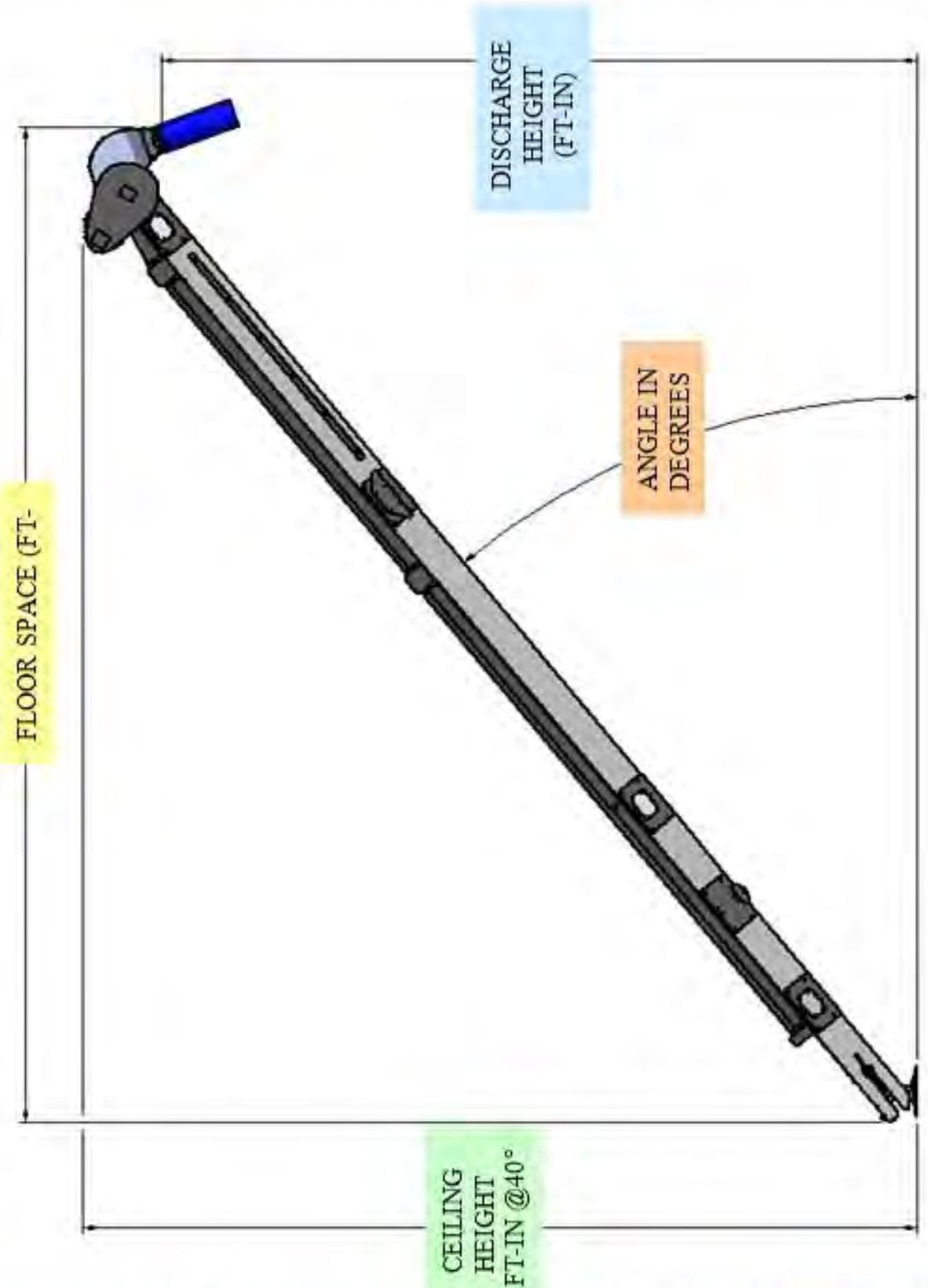


Anchoring and/or support of conveyor during operation is necessary. When the lower half of conveyor empties of material, the weight balance transfers to the upper end of the machine, which can cause upending.

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 towing vehicle. See Section D, Transporting on page 42.
4. Move conveyor as near as possible to desired position.
5. Use the hydraulic lift to raise the conveyor outlet so it clears the top of the bin you intend to load seed into.
6. Move conveyor to it's final position.
7. Set the parking brake on the towing vehicle before dismounting.
8. Using the hand crank or optional hydraulic lift, lower the conveyor to the ground.
9. Place chocks in the front and rear of each wheel.
10. Unhook the unit from the towing vehicle.
11. It will be necessary to stake or weight the intake end to prevent upending when the machine is emptying.
12. 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
13. Reverse the above procedure when removing the machine from its working position.

STRUCTURAL ENVELOPE



Conveyor Lengths	Angle in Degrees										
	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°	40°
TS3555	17-6	19-4	21-2	22-11	24-8	26-5	28-1	29-9	31-4	32-11	34-6
	53-10	53-1	52-5	51-8	50-10	49-5	48-11	47-11	46-10	45-8	44-6
	20-8	22-5	24-2	25-10	27-6	29-2	30-9	32-4	33-10	35-4	36-1
TS3565	20-11	23-1	25-3	27-4	29-4	31-5	33-5	35-4	37-3	39-1	40-11
	63-2	62-5	61-7	60-1	59-2	58-7	57-5	56-2	54-5	53-7	52-2
	24-1	26-2	28-3	30-3	32-3	34-2	36-1	37-11	39-9	41-6	43-2
TS3570	22-8	25	27-3	29-6	31-9	33-11	36	38-1	40-2	42-2	44-1
	67-11	67	66-1	65-1	64-1	62-11	61-8	60	58-3	56-9	56
	25-10	28-1	30-3	32-5	34-7	36-8	38-8	40-9	42-8	44-7	46-5

FULL Y LOW-ERED	11°
	9
TS3555	56-1
	12-5
TS3565	10-11
	65-11
TS3570	14-4
	11-10
	70-10
	15-3

*** ALL DIMENSIONS ROUNDED DOWN TO NEAREST INCH**

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 46).
 4. The hydraulic oil in the electric powered lift assembly may need to be heated prior to lifting the bin fill conveyor. Freezing temperatures will increase the fluids viscosity requiring additional force to drive the hydraulic piston. This will increase the amperage load of the motor and possibly cause it to trip the motor starter overload.
- 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.
- Use a Truck Unload Conveyor or similar conveyor to move grain from under the bin discharge into the bin fill conveyor hopper when emptying low clearance facilities.

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 34) 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°**. Molded flights on the belt minimize material rollback during operation.
5. Drive or back the truck or wagon into position for unloading.
6. Turn the electric motor ON and begin the flow of material and unload.
7. To stop the conveyor; stop the flow of material and run until the belt is empty. Turn off motor and lock out power source.

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 pages 46 and 48).**

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

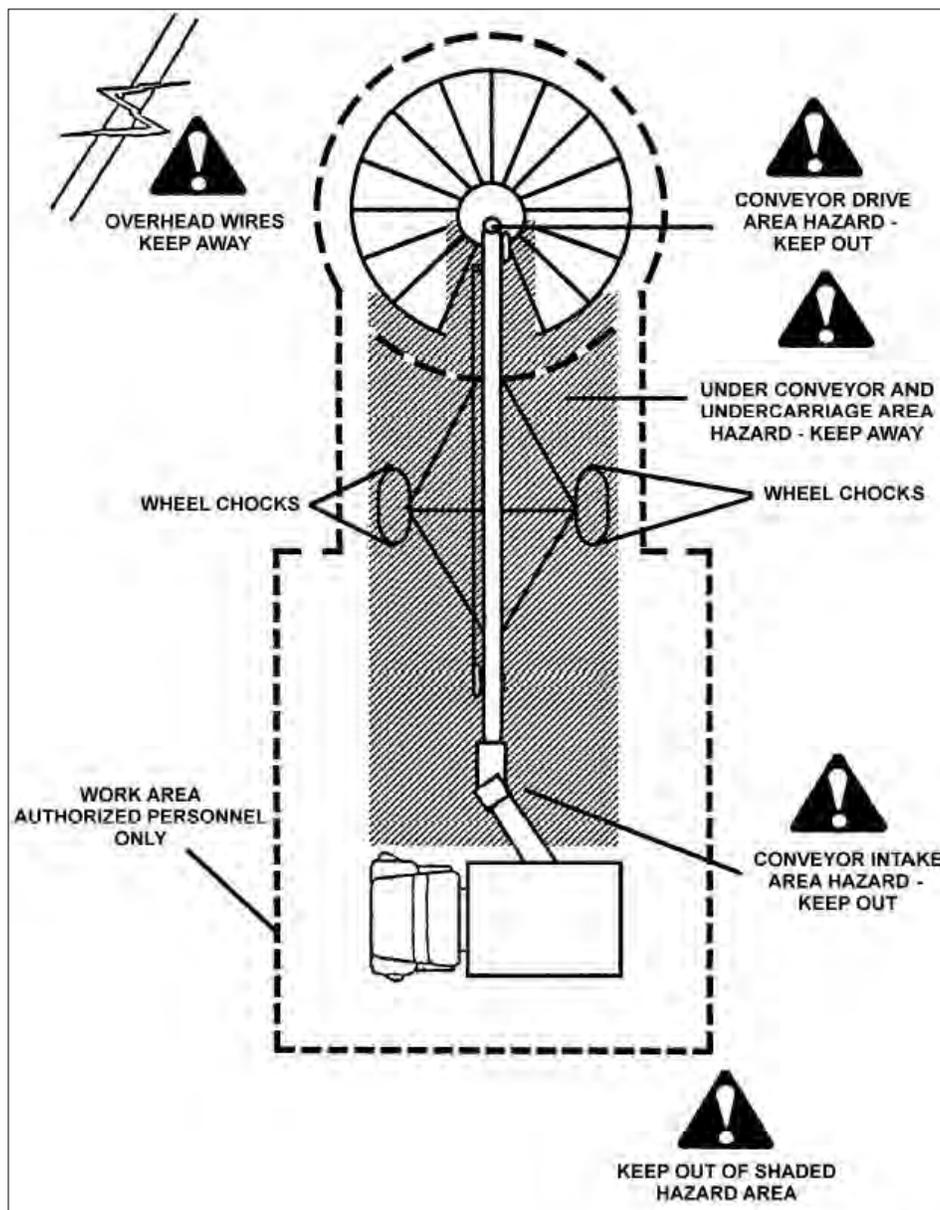
1. Re-torque all wheel bolts, fasteners and hardware.
2. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
3. Check safety decals. Install new ones if required.
4. Check the drive belt, and conveying belt tension and alignment. Tension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

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.

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.



SECTION D TRANSPORTING

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. Using the jack, raise the drawbar to the desired height and remove the hitch pin from drawbar assembly.
2. Be sure that there is sufficient room and clearance to back up to the machine.
3. Back up tow vehicle and align with drawbar on conveyor.
4. Set the park brake before dismounting.
5. 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.
- 6. Remove wheel chocks before raising the tail end of the conveyor. Failure to do so can damage lifting mechanism.**
7. Using the jack, raise the tail end of the conveyor high enough to be able to re-insert the hitch pin into one of the holes in the drawbar.
8. Move to new location.
9. Reverse the above procedure when unhooking.

Re-insert hitch pin

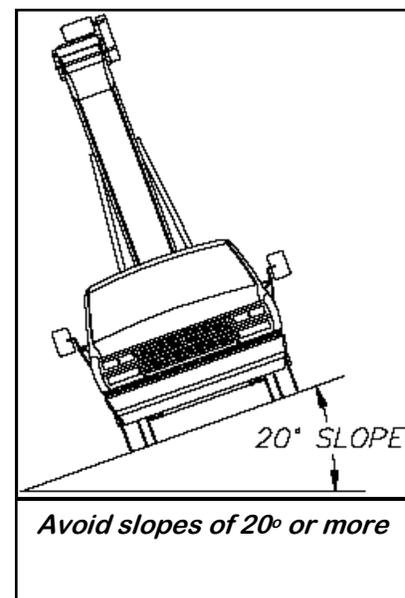
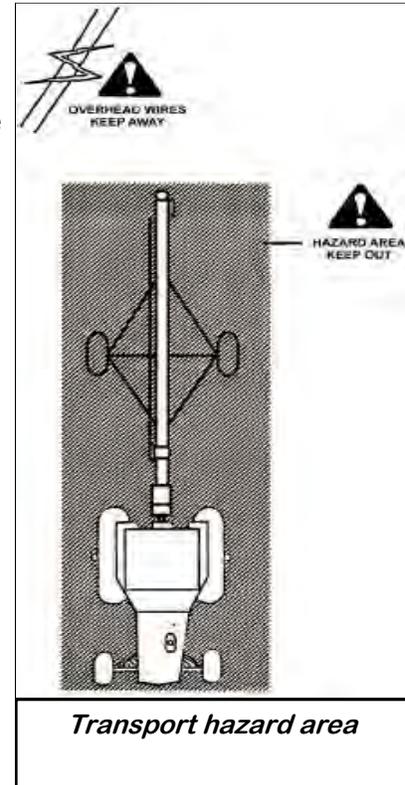


Remove hitch pin

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.



SECTION E TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Conveyor will not run.	<ol style="list-style-type: none"> 1. Not turned on. 2. Conveying belt loose. 3. Drive belt loose. 	<ol style="list-style-type: none"> 1. Start power source or turn on power. 2. Tighten and align belt. 3. Tighten drive belt.
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. 4. Drive belt slipping. 	<ol style="list-style-type: none"> 1. Reposition with angle at 40°. 2. Increase operating speed. 3. Tighten belt. 4. Set drive belt tension.
Conveyor will not raise	<ol style="list-style-type: none"> 1. No power to hydraulic pack. 2. Low oil. 3. Using incorrect oil. 4. Hydraulic cylinder vent not installed or plugged. 5. Pivot point hardware is too tight. 6. Pressure relief valve set too low. 7. Motor running in wrong direction. 	<ol style="list-style-type: none"> 1. Check power source, make sure switch inside of control box is in the on position. 2. Make sure oil level is high enough to touch the bottom of the indentations located on the top of the reservoir. 3. You must use DTE 24 hydraulic oil. 4. Clean or install new vent. 5. Back hardware tightness off so hardware will easily rotate. (Make sure lock-nuts are still fully engaged) 6. Adjust relief valve as needed to raise (Adjust set screw inward) 7. Check wiring. Revise as needed.

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.

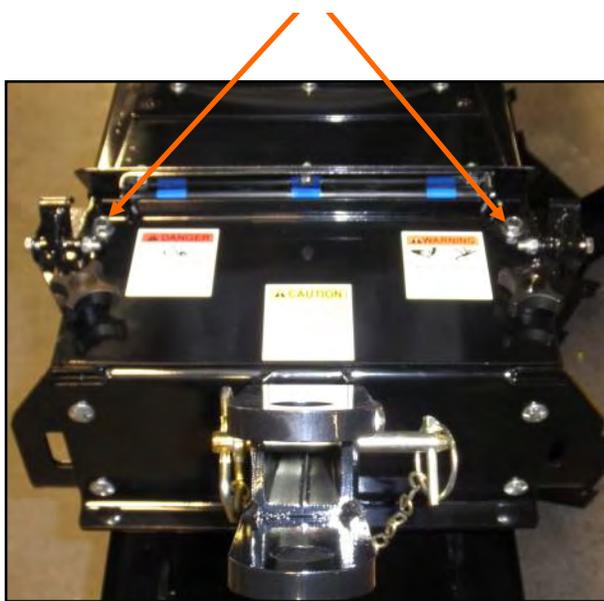
2. Remove the nut, bolt and sliding clean out door from the bottom of the inlet tube section of the conveyor. Remove any built up material. Reinstall door and hardware.



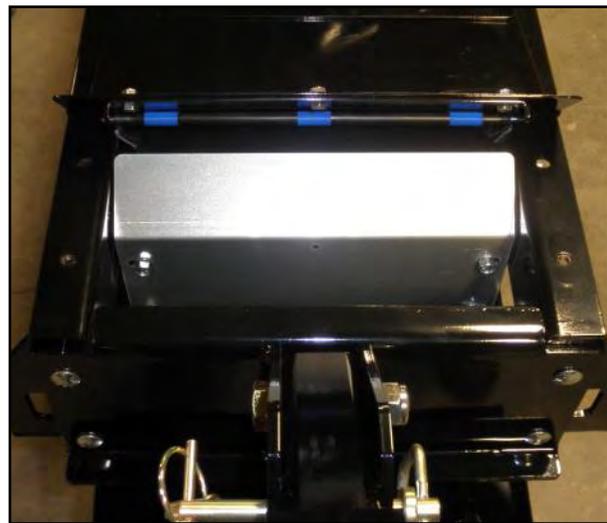
Sliding Clean Out

3. Open the tail cover (below).
4. Remove plugged material.
5. Install and secure conveyor and tail covers.

Remove shipping bolts after receiving conveyor



Bottom clean-out cover



Bottom clean-out cover removed

SECTION F MAINTENANCE

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.

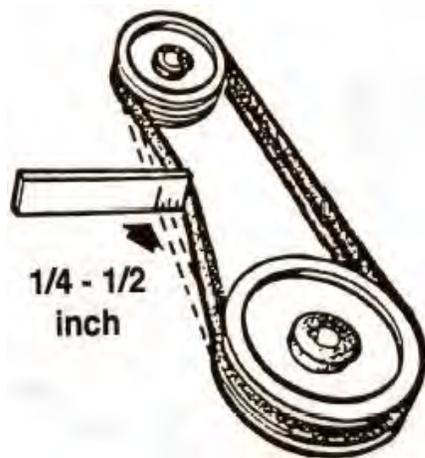
NOTICE

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

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).
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.
4. Wipe down the motor casing with a damp cloth making sure to remove all dust that may have collected since the last maintenance date. Record the cleaning on the company required documents. If operating in a CSA 22.1, Class II, Division 2, Group G hazardous area, USC recommends this step be performed on a daily basis.



Every 200 hours or Annually

1. Repack wheel bearings.
2. Wash machine.
3. Check pulley bushing for wear. To inspect pulley:
 - A. Lower the conveyor to its lowest position.
 - B. When the conveyor has reached the lowest position, it will stop at the pins.
 - C. Unwind the winch two more turns, or until enough slack in the cable is achieved.
 - D. Loosen and remove the bolt.
 - E. Inspect the bushing on the pulley for wear.
 - F. Reverse steps A-D for re-assembly.

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.

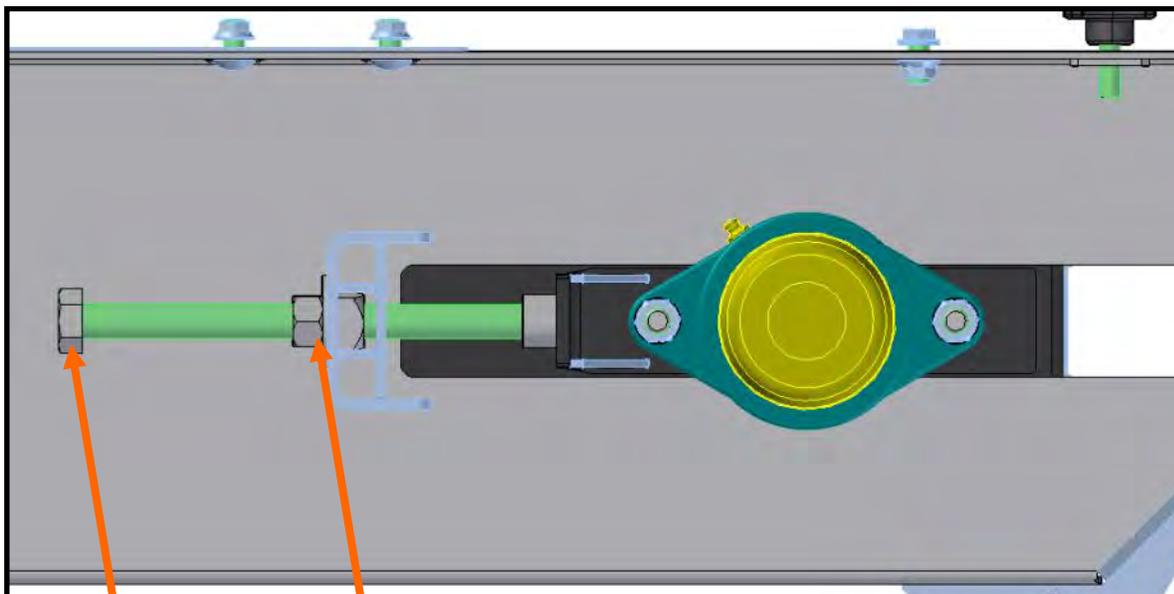
CONVEYING BELT TENSION AND ALIGNMENT - TAIL END

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



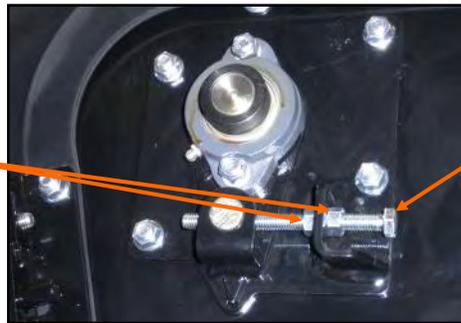
Use this bolt to tighten and

This nut will free and secure adjustment bolt.

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.

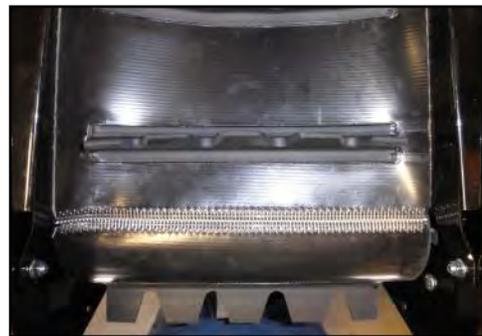
Tighten jam nuts after adjustment



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 TENSION & ALIGNMENT

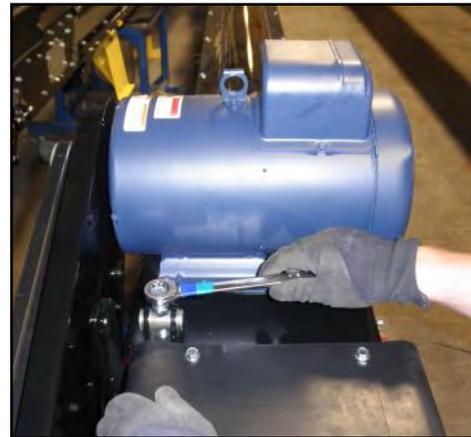
Power to the conveying belt is transmitted through a V-belt. The V-belt drive system must be maintained at the proper belt tension and pulley alignment to obtain the desired performance and life. When maintaining the belt drive system for the electric drive model, follow this procedure:

NOTICE

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 47 to determine proper belt deflection.
3. Move the motor up, using the adjustment bolt, to set drive belt tension (right).
4. Close and secure guards.



Motor base adjustment

Drive Belt Alignment

1. Lay a straightedge across the pulley faces to check the alignment (right).
2. Use the pulley hub or the motor mounting plate slots 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.

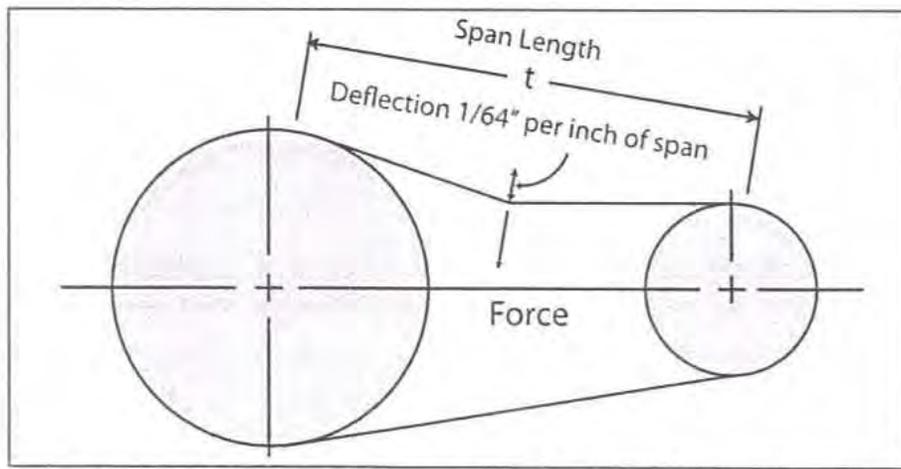


Lay a straightedge across

Drive Belt Replacement

1. Lower motor to its lowest 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.

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 CROSS SECTION	SMALLER PULLEY DIAMETER RANGE (inches)	DEFLECTION FORCE	
		RUN - IN (lbs)	NORMAL (lbs)
AX	3.0 - 3.6	4 - 1/8	2 - 3/4
	3.8 - 4.8	5	3 - 1/4
BX	3.4 - 4.2	5 - 1/4	3 - 1/2
	4.4 - 5.2	7 - 1/8	4 - 3/4

STORAGE SECTION G

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.

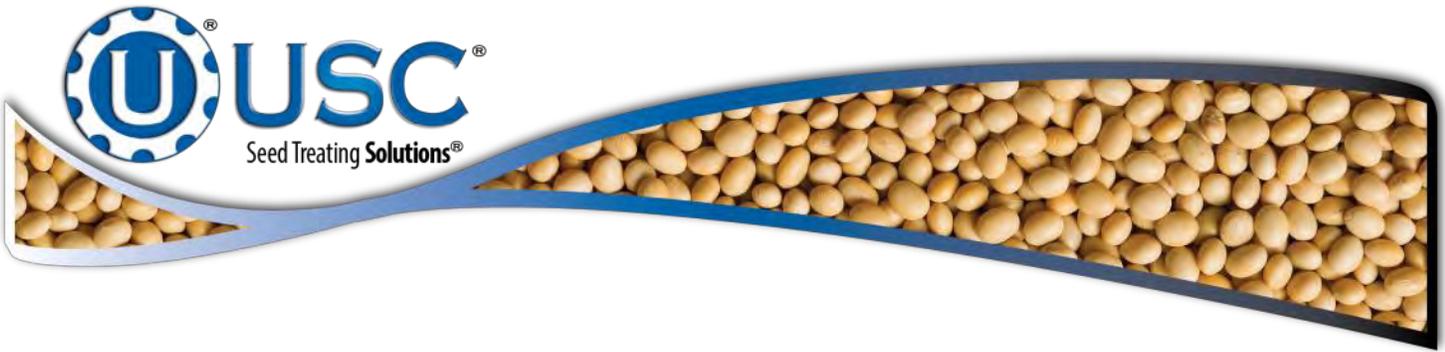
1. Clear the area of bystanders, especially small children.
2. Thoroughly wash the entire machine to remove all dirt, mud, debris or residue.
3. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove the entangled material.
4. Lubricate all grease fittings. Make 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.

USC LIMITED WARRANTY

USC LLC, (Manufacturer) warrants its seed treating 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. If the Products do not conform to this Limited Warranty during the warranty period, Buyer shall notify Manufacturer in writing of the claimed defects and demonstrate to Manufacturer satisfaction that said defects are covered by this Limited Warranty. 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.
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 effected 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 casualties 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.
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.
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.
5. **Return Policy:** Approval is required prior to returning goods to Manufacturer. A restocking fee will apply.
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.

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DOCUMENT REVIEW RECORD	
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