

CONVEY-ALL

INDUSTRIES INC.



COMMERCIAL SEED TENDER

Models:

CST-1634, CST-1834, CST-2034, CST-2434

OPERATOR'S MANUAL

LIMITED WARRANTY

Convey-All warrants to the buyer that the new machinery is free from defects in material and workmanship.

This warranty is only effective as to any new machinery which has not been altered, changed, repaired or treated since its delivery to the buyer, other than by Convey-All or its authorized dealers or employees, and does not apply to accessories, attachments, tools or parts, sold or operated with new machinery, if they have not been manufactured by Convey-All.

Convey-All shall only be liable for defects in the materials or workmanship attributable to faulty material or bad workmanship that can be proved by the buyer, and specifically excludes liability for repairs arising as a result of normal wear and tear of the new machinery or in any other manner whatsoever, and without limiting the generality of the foregoing, excludes application or installation of parts not completed in accordance with Convey-All operator's manual, specifications, or printed instructions.

Written notice shall be given by registered mail, to Convey-All within seven (7) days after the defect shall have become apparent or the repairs shall have become necessary, addressed as follows:

**Convey-All Industries Inc, Box 2008, 130 Canada Street
Winkler Manitoba R6W 4B7
Canada**

This warranty shall expire one (1) year after the date of delivery of the new machinery.

If these conditions are fulfilled, Convey-All shall at its own cost and at its own option either repair or replace any defective parts provided that the buyer shall be responsible for all expenses incurred as a result of repairs, labor, parts, transportation or any other work, unless Convey-All has authorized such expenses in advance.

The warranty shall not extend to any repairs, changes, alterations, or replacements made to the new equipment other than by Convey-All or its authorized dealers or employees.

This warranty extends only to the original owner of the new equipment.

This warranty is limited to the terms stated herein and is in lieu of any other warranties whether expressed or implied, and without limiting the generality of the foregoing, excluded all warranties, expressed or implied or conditions whether statutory or otherwise as to quality and fitness for any purpose of the new equipment. Convey-All disclaims all liability for incidental or consequential damages.

This machine is subject to design changes and Convey-All shall not be required to retrofit or exchange items on previously sold units except at its own option.

WARRANTY VOID IF NOT REGISTERED

WARRANTY REGISTRATION FORM & INSPECTION REPORT

This form must be filled out by the dealer and signed by both the dealer and buyer at the time of delivery.

Buyer's Name _____	Dealer's Name _____
Address _____	Address _____
City _____	City _____
Province/State _____	Province/State _____
Postal Code/Zip Code _____	Postal Code/Zip Code _____
Country _____	Country _____
Phone Number _____	
Unit's Model Number _____	Unit's Serial Number _____
Delivery Date _____	General Purpose: <input type="checkbox"/> Private <input type="checkbox"/> Commercial

UNIT INSPECTION

- All Fasteners Tight
- Hydraulic Hoses Free and Fittings Tight
- Conveyor Belts Move Freely
- Conveyor Belts Aligned and Tensioned
- Drive Belts Aligned and Tensioned
- Folding conveyor Folds Freely
- Checked Engine Fluid Levels
- Lubricated Machine

SAFETY INSPECTION

- All Guards, Shields Installed and Secured
- All Safety Decals Installed and Legible
- Reflectors, Slow Moving Vehicle (SMV) Clean
- All Lights Clean and Working
- Reviewed Operating and Safety Instructions

I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's Rep. Signature _____

The above equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Date _____ Buyer's Signature _____

WHITE	YELLOW	PINK
CONVEY-ALL	DEALER	CUSTOMER

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Section 1: INTRODUCTION

Congratulations on your choice of a Convey-All Commercial Seed Tender to complement your seed delivery system in your agricultural operation. This equipment has been designed and manufactured to exceed the exacting standards for such equipment in the agricultural industry and will keep your seed delivery operation working at optimum efficiency.

The tender is intended to be mounted onto a truck bed. The CST and truck are separate equipment. There is no information relating to the truck in this document.

Safe, efficient and trouble free operation of your tender system requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, Service & Maintenance and Trouble Shooting information contained within this Operator's Manual.

Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Convey-All Industries Inc, dealer or distributor for assistance, information, additional/replacement copies, or a digital copy of this manual.

1.1 OPERATOR ORIENTATION

The directions; left, right, front and rear, as mentioned throughout this manual, are as seen from the truck driver's seat and facing the direction of travel.

1.2 SERIAL NUMBER LOCATION

Always give your dealer the serial number of your bean tender when ordering parts or requesting service or other information.

The tender's serial number is located on the rear hopper support leg, beside the hydraulic valves.

Write the numbers in the below for easy reference.

CST Model No: _____

CST Serial No: _____

Engine Model No. (if equipped): _____

Engine Serial No. (if equipped): _____



Fig 1 - Rear, Driver Side of Tender

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Section 2: SAFETY

This Safety Alert Symbol means:
ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

Why is SAFETY important to you?

3 Big Reasons:

- Accidents Disable and Kill
- Accidents Cost
- Accidents Can Be Avoided



The Safety Alert Symbol identifies important safety messages on the Convey-All Commercial Seed Tender and in this manual.

When you see this symbol and/or the signal words described below, obey the accompanying message to avoid possible injury or death.

SIGNAL WORDS:

Note the use of the signal words: DANGER, WARNING, CAUTION and NOTICE with their safety messages.

The appropriate signal word for each message has been selected using the following guide-lines.

DANGER - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING - Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury. This word identifies hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may be used to alert against unsafe practices.

NOTICE - Indicates practices or situations which may result in the malfunction of, or damage to, the equipment.










2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE operation and maintenance of your Convey-All Commercial Seed Tender (CST). Be sure that you and anyone else who will operate, maintain or work around the CST be familiar with the safety, operating and maintenance procedures. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the CST.

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, and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- CST owners must give operating instructions to operators or employees before allowing them to operate the machine. Procedures must be reviewed 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. Most 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.
- Unauthorized modification may impair the function and/or safety of the equipment. The change could also affect the life of the equipment.
- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

- Read and understand the Operator's Manual and all safety signs before operating, maintaining, adjusting or unplugging the CST. 
- Only trained competent persons shall operate the unit. An untrained operator is not qualified to operate the machine.
- Have a first-aid kit available for use should the need arise and know how to use it. 
- Provide a fire extinguisher for use in case of an accident. Store in a highly visible place. 
- Do not allow children, spectators or bystanders within hazard area of machine.
- Wear appropriate protective gear. This list includes but is not limited to:
 - A hard hat 
 - Protective shoes with slip resistant soles 
 - Eye protection 
 - Heavy gloves 
 - Hearing protection 
 - Respirator or filter mask 
 - 
- Place all controls in neutral or off, stop engine, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing, or unplugging.
- Review safety related items annually with all personnel who will be operating or maintaining the CST.

2.3 EQUIPMENT SAFETY GUIDELINES

- Safety of the operator and bystanders is one of the main concerns in designing and developing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment.

You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you, follow them.

- In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be operated in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
- Replace any safety or instruction decal that is not readable or is missing.
- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment.



Consult your doctor about operating this machine while taking prescription medications.

- The operator should be a responsible, properly trained and physically able person familiar with farm machinery and trained in this equipment's operations.
- Under no circumstances should young children be allowed to work with this equipment.
- If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.
- Do not allow persons to operate this unit until they have read this manual. They should have a thorough understanding of the safety precautions and of how it works.

Review the safety instructions with all users annually.

- Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - DON'T TRY IT.
- Do not modify the equipment in any way. Unauthorized modification result in serious injury or death and may impair the function and life of the equipment.

2.4 SAFETY TRAINING

- Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
- Hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
- It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Accidents can be avoided.
- Working with unfamiliar equipment can lead to careless injuries. Read this manual before operating, to acquaint yourself with the machine.



If this tender is used by any person other than yourself, is loaned or rented, it is the machine owner's responsibility to make certain that the current/future operators:

- Reads and understands the operator's manuals.
- Is instructed in safe and proper use.
- Know your controls. Know how to stop the truck engine, and tender's conveyor quickly in an emergency.
- Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will operate the machinery.

Personnel who have not read this manual are not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.

- Physical limitations of the employees need to be recognized and accommodated.

2.5 SAFETY DECALS

- Keep signage clean and legible at all times.
- Replace safety decals that are missing or have become illegible.
- If an original part which contained a safety decal, has been replaced by a new part; it show also display the decal.
- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.
- Decals are available from your authorized distributor, dealer's parts department or from Convey-All Industries Inc.

2.5.1 How to Install Safety Signs:

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

2.6 WORK PREPARATION

- Never operate the truck hydraulics and CST until you have read and completely understand this manual. Read each of the Safety Messages found on the safety signs on the tender.



- Personal protective equipment including:
 - hard hat
 - safety glasses
 - safety shoes
 - gloves



are recommended during operation, adjustment, maintaining, repairing, removal, or moving the implement.



- Do not allow long hair, loose fitting clothing or jewelry to be around equipment.
- **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Agricultural equipment can often be noisy enough to cause permanent, partial hearing loss. We recommend that hearing protection be worn on a full-time basis if the noise in the operator's position exceeds 80db.



Noise over 85db on a long-term basis can cause severe hearing loss.

Noise over 90db adjacent to the operator over a long-term basis may cause permanent, total hearing loss.





Note:

Hearing loss from loud noise (tractors, chain saws, radios, etc.) is cumulative over a lifetime without hope of natural recovery.

- Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
- Operate only in daylight or good artificial light.
- Be sure machine is in a stable position, is adjusted and in good operating condition.
- Ensure that all safety shielding and safety decals are properly installed and in good condition.
- Before starting, inspect the unit for any loose bolts, worn parts, cracks, leaks and/or frayed belts. Make the necessary repairs.

Always follow maintenance instructions.


2.7 MAINTENANCE SAFETY

- Review the Operator's Manual and all safety items before working with and maintaining the tender. 
- Place all controls in neutral or off, stop engine, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- 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.
- Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition. 
- Relieve pressure from hydraulic circuit before servicing.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts. 
- Make sure there is plenty of ventilation. Never operate the engine in a closed building.

The exhaust fumes may cause asphyxiation.

- Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
- Before resuming work, install and secure all guards when maintenance work is completed.
- Keep safety decals clean. Replace any signage that is damaged or not clearly visible.

2.8 PLACEMENT SAFETY

- Stay away from overhead power lines when moving the tender. Electrocutation can occur without direct contact. 
 - Locate unit to provide ample space for loading or unloading.
 - Store Folding Conveyor in its folded position when moving. Unfold only when ready to unload.
 - Be familiar with the machine's hazard zones. If anyone enters the hazard area, shut down machine immediately.
- Clear the area before restarting.
- Operate the tender on level ground free of debris.

2.9 OPERATING SAFETY

- Please remember it is important that you read and heed the safety messages on the CST. Clean or replace all decals that cannot be clearly read and understood. They are there for your safety, as well as the safety of others.

- Ensure that everyone operating the CST, working on, or around it, reads and understands all the information in the operator's manual.



Review the safety, operating and maintenance instructions annually.

- Keep all bystanders, especially children, away from the machine when loading or unloading. Only authorized personnel should be in the area when carrying out maintenance work.

- Do not place hands, arms or body between tender and folding conveyor frame to prevent pinching or crushing. Components can move unexpectedly.



- Never work near the hopper gate cylinders while they are in operation.

- Use care when climbing on frame or ladder to prevent slipping or falling.



- Establish a lock-out, tag-out policy for the work site. Be sure all personnel are trained in and follow all procedures. Lock-out, tag-out all power sources before servicing the unit or working around loading/unloading equipment.

- Place all controls in neutral. Stop the engine. Remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

- Be familiar with machine hazard areas. If anyone enters these spaces, 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 tender when transporting.

- Keep working area clean and free of debris to prevent slipping or tripping.



- Stay away from overhead obstructions and power lines during operation and transporting. Electrocutation can occur without direct contact.

- Do not operate machine when any guards are removed.

- Set park brake on tractor before starting.

- Be sure that conveyor is empty before raising/lowering, swinging or folding.

2.10 HYDRAULIC SAFETY

- Always place all hydraulic controls in neutral before disconnecting and working on hydraulic systems.
- Relieve pressure in hydraulic system before maintaining or working on machine.
- Make sure that all components in the hydraulic system are kept in good condition and are clean.
- Replace any worn, cut, abraded, flattened or crimped hoses.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
- Wear proper hand and eye protection when searching for a high-pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.



- If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.





2.11 TRANSPORT SAFETY

- Close valves in hydraulic line before transporting.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Always engage folding conveyor transport lock before transporting.
- Comply with all local laws governing safety and transporting of equipment on public roads.
- Do not exceed a safe travel speed. Slow down for rough terrain and when cornering.
- Stay away from overhead power lines. Electrocutation can occur without direct contact.
- Plan your route to avoid heavy traffic.
- Do not drink and drive.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.



2.12 BATTERY SAFETY

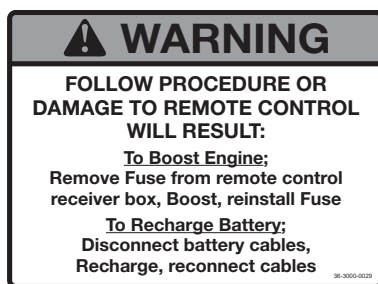
- Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive. 
- Avoid contact with battery electrolyte: wash off any spilled electrolyte immediately.
- Wear safety glasses when working near batteries. 
- Do not tip batteries more than 45 degrees, to avoid electrolyte loss.
- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of electrical system.
- If equipped with optional remote control: Boosting the engine through the battery, or recharging the battery, will cause a short in the remote control system, killing it.

To boost the engine:

- Remove the fuse from the remote control receiver box
- Boost the engine
- Reinstall the fuse

To recharge the battery:

- Disconnect the battery cables
- Recharge the battery
- Reconnect the cables



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- Before using the battery, after it has been in storage, be sure it has the optimal charge.

2.13 LOCK-OUT TAG-OUT SAFETY

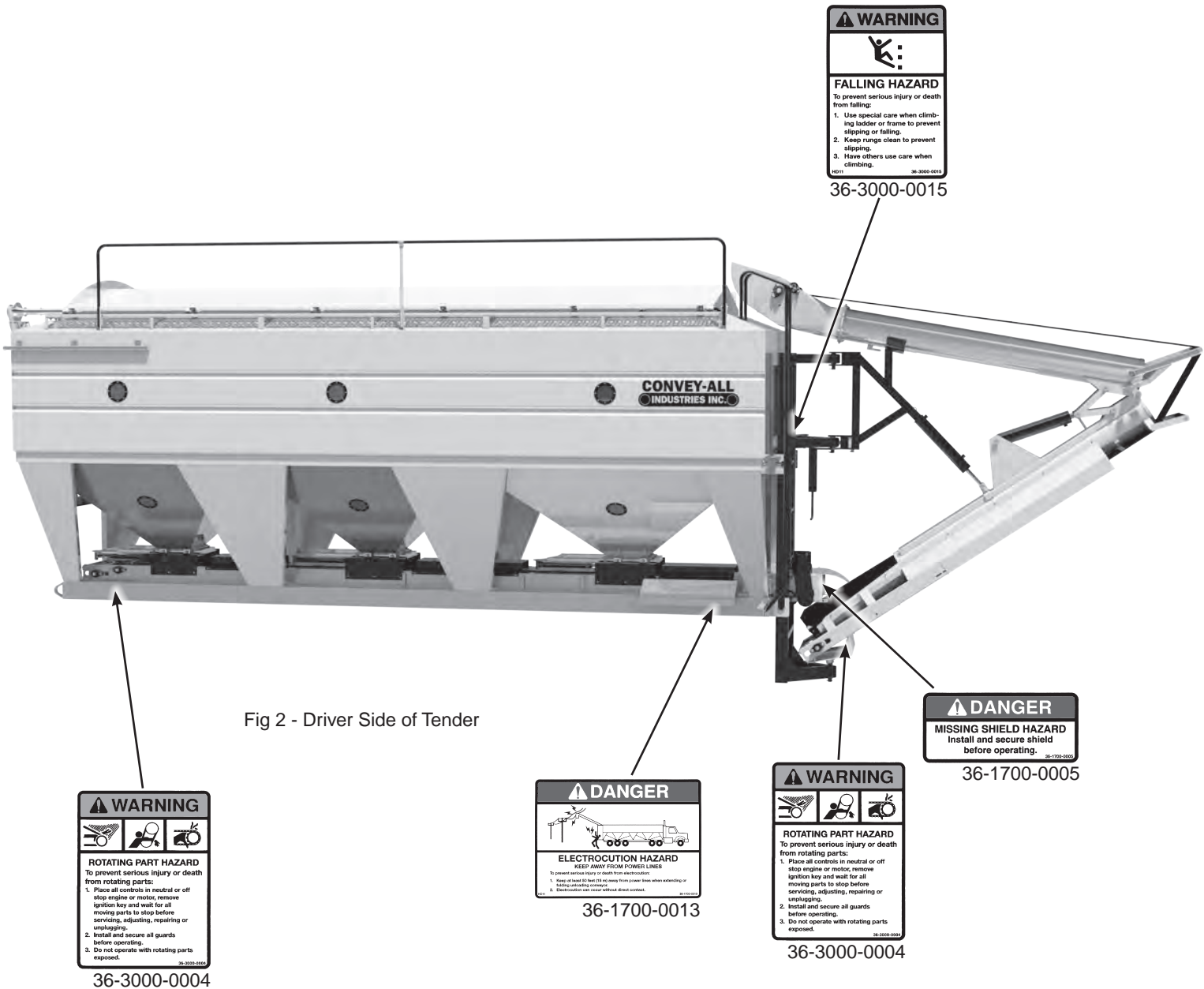
- Establish a formal Lock-Out, Tag-Out program for your operation.
- Train all operators and service personnel before allowing them to work around the equipment.
- Provide tags on the machine and a sign-up sheet to record tag out details.

2.14 STORAGE SAFETY

- Store the CST on a firm, level surface.
- Store in an area away from human activity.
- If required, make sure the unit is solidly blocked up.
- Make certain all mechanical locks are safely and positively connected before storing.
- Remove the battery. Be sure it is fully charged.
 - Store it inside.
 - Do not sit the battery on a cold concrete floor.
- Do not permit children to play on or around the stored machine.

2.15 SAFETY SYMBOL IDENTIFICATION

There are various types of safety messages on decals in many locations on the CST. Good safety practices include being familiar with the signage, the type of warning, the area, and the function related to that area.



REMEMBER - If safety decals have been damaged, removed, become illegible, or parts were replaced without signage, new decals must be applied. Decals are available from your authorized dealer.

Section 3: OPERATION



Operating Safety

- Read and understand the Operator's Manual, and all safety decals, before using. Review safety related items annually.
- Place all controls in neutral, stop the engine, remove ignition key. Wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Clear the area of bystanders, especially children, before starting. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
- Install and secure all guards before starting. Do not operate machine when any guards are removed.
- Use care when climbing on frame or ladder to prevent slipping or falling.
- Do not allow riders on the CST when transporting.
- Stay away from overhead obstructions and power lines during operation. Electrocution can occur without direct contact.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Do not place hands, arms or body between compartment and folding conveyor frame to prevent pinching or crushing. Components can move unexpectedly.
- Keep hydraulic components in good condition.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Establish a lock-out, tag-out policy for the work site. Train all personnel in, and follow all procedures. Lock-out, tag-out all power sources before servicing the unit or working around loading/unloading equipment.

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 tender. Follow all safety instructions exactly. It is everyone's business. By following recommended procedure, a safe working environment is provided for the operator, bystanders and the area around the work site.

The design and configuration of this tender includes safety decals and equipment. Hazard controls and accident prevention are dependent upon the personnel operating and maintaining it. Their awareness, concern, prudence and proper training are crucial.

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. There are instructions on how to set it, to provide maximum efficiency. By following the operating instructions, in conjunction with a good maintenance program, your CST will provide many years of trouble free service.

3.1 MACHINE COMPONENTS

The Commercial Seed Tender is available in three sizes depending on the required seed capacity.

The CST is shown mounted onto a truck bed. The owner is responsible for mounting the tender onto a truck with sufficient load capacity.

A self-contained hydraulic power pack is an option. If equipped, it would be mounted onto the driver side. It would consist of an engine and battery, fuel tank, hydraulic pump, oil reservoir and associated plumbing.

A remote control is also an option. The receiver would be mounted inside the rear hopper support. All operations on the tender could be controlled remotely. Manual overrides are included. Each hopper can be opened or closed individually.

The main components are shown below.

* The position of components may vary depending on the model.

- a. Hoppers (number varies by model)
- b. Hopper Discharge Gate
- c. Folding Conveyor
- d. Slave Conveyor
- e. Slave Conveyor Discharge Spout
- f. Hydraulic Valves
- g. Remote Control Handset (Optional)
- h. Ladder
- i. Catwalk with Rail
- j. Canvas Tarp
- k. Tarp Controls
- l. Document Container

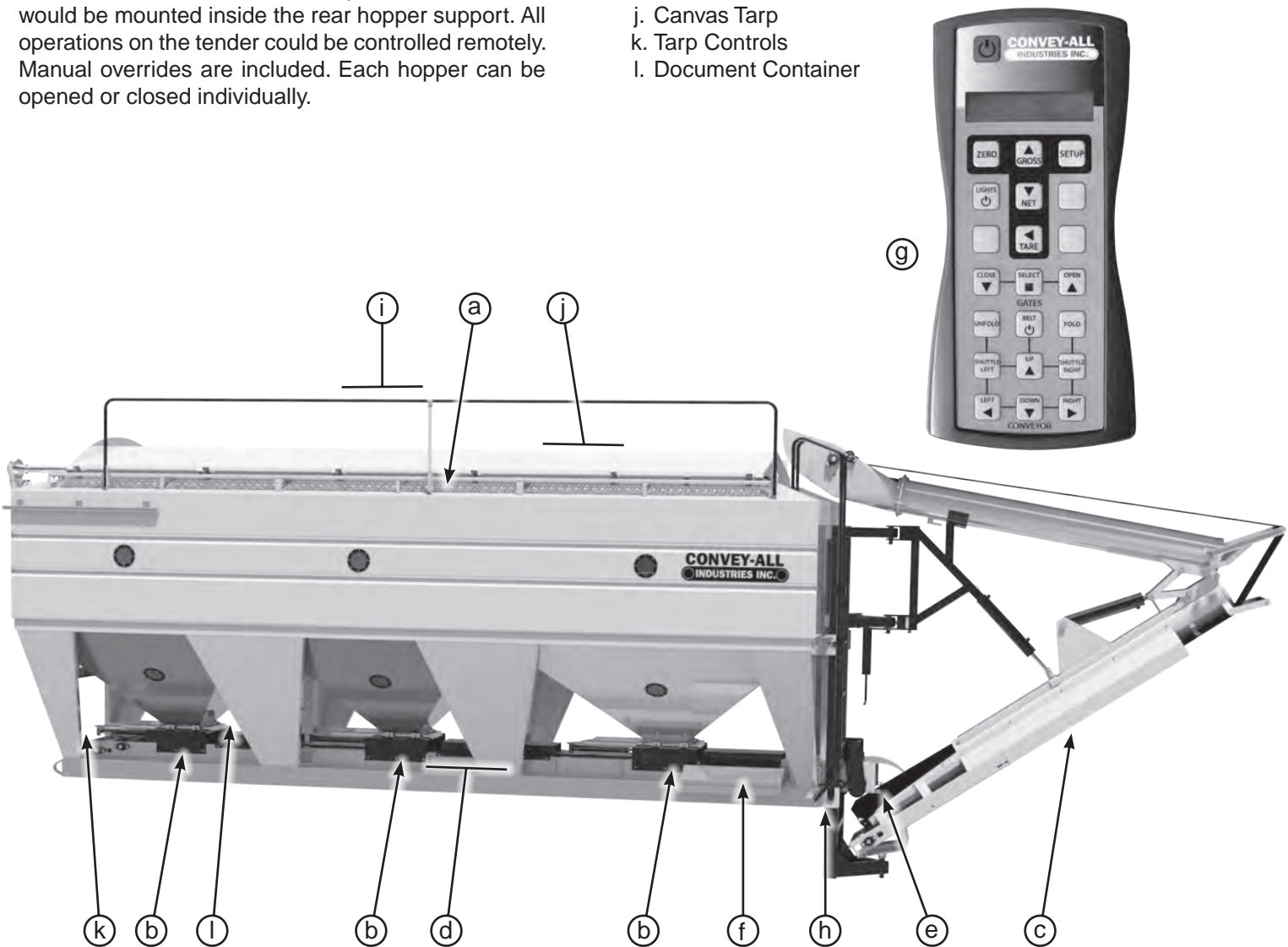


Fig 3 - Left Side of CST-1834, Remote Control Handset Above

3.2 COMPONENTS AND CONTROLS

Before starting to work, all operators should familiarize themselves with the location and function of all the controls.

Hydraulic Valve Bank:

All machine functions are controlled by the bank of hydraulic valves mounted on the rear left frame. Each valve is designed with a flow control as part of the base.

On a standard tender, the hydraulics are connected to the truck's system.

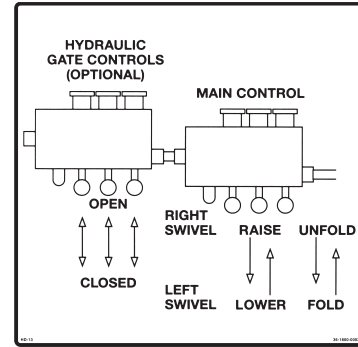
The valve functions are as follows:

- a. Gate Valves:
Each valve in the first set of three, controls one of the hopper gates.
 - Pull valve to close a gate.
 - Push valve to open the same gate.
- b. Swivel Folding Conveyor:
 - Pull valve to swivel the conveyor left.
 - Push the valve, to swing it right.
- c. Raise/Lower Folding Conveyor:
 - Pull this valve to lower the conveyor.
 - Push valve to raise it.
- d. Unfold/Fold Conveyor:
 - Pull the valve to fold the conveyor.
 - Push valve to unfold it.
- e. Conveyor Motors:
 - Pull the valve to start both conveyor belts.
 - Push it to stop the conveyors.

Note:

Both conveyors are controlled with one valve. They have a pre-set speed difference, ensuring that the Folding Conveyor will not become plugged from overfeeding.

- f. Oil Flow Regulator:
This lever to adjusts the flow of hydraulic oil to the conveyor motors. Adjust in small increments.
 - Turn the lever horizontal to run the conveyor at full speed.
 - Return lever to vertical position to stop the flow of oil.



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Fig 4 - Valves Bank Decal

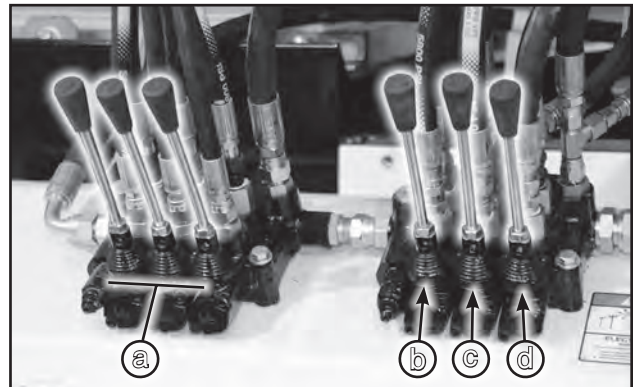


Fig 5 - Gate and Conveyor Positioning Hydraulic Valves

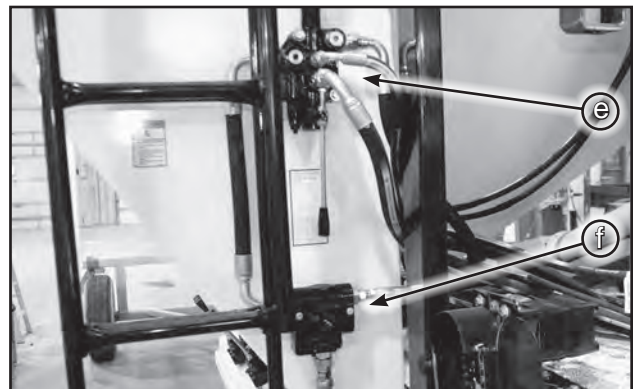


Fig 6 - Conveyor Motor Hydraulic Valve and Oil Regulator

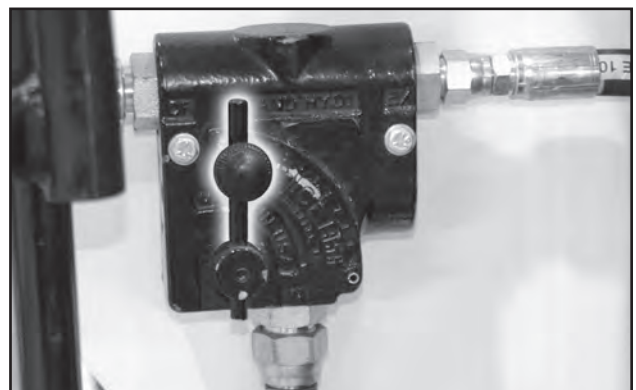


Fig 7 - Oil Flow Regulator



WARNING: Electrocutation Hazard
Be aware of your location. Do not unfold conveyor near power lines.

Folding Conveyor:

This conveyor is run by a hydraulic motor at the discharge. It can swing in an 80° arc, and has a 25' 7" reach. It can discharge at heights between 9' 9" and 11' 10".

Folding Conveyor's Locking Pin:

Pull to disengage the locking pin. This will allow the conveyor to swing.

Centre the conveyor, then engage the lock for transportation or storage.



Fig 8 - Folding Conveyor

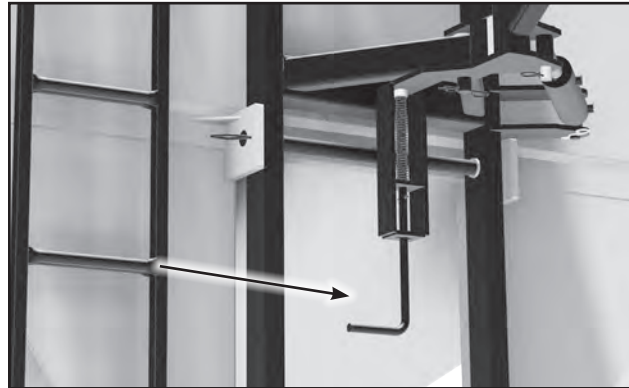


Fig 9 - Folding Conveyor Locking Pin

Exterior Ladder:

There is a ladder at the rear of the unit.

The ladder has an extension, which can be positioned for use when the tender is mounted on a tall truck.



Fig 10 - Ladder



WARNING: Tripping Hazard:
Be aware of the metal tabs on the inside of the catwalk. They hold the closed tarp in position, but may interfere with walking.

Catwalk:

There is a catwalk on top across length of the tender on the driver's side. The railing can be folded down for transport or storage.

IMPORTANT:

Always unfold railing, and secure with bolts before using catwalk.

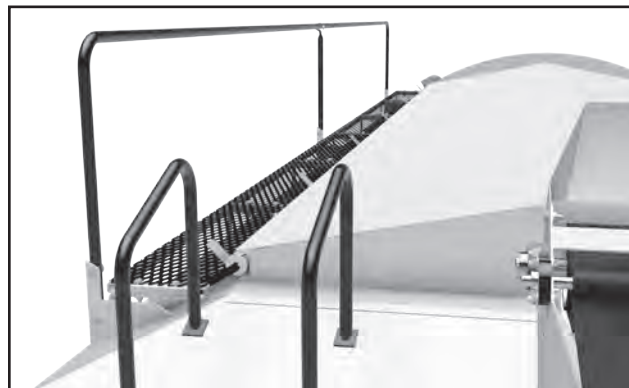


Fig 11 - Catwalk

Electric Roll-Top Tarp:

A tarp is used to cover the hoppers. It is run by an electric motor.

The tarp motor is controlled by a red, toggle switch which is attached to the frame on the front, driver-side.



Fig 12 - Electric Roll-Top Tarp



Fig 13 - Tarp Controls

Mounting Bracket Hardware:

The CST is sold with the mounting hardware strapped inside the frame, below the first hopper. Use these brackets to attach the tender to the truck frame.

Note:

The 2 brackets with springs are to clamp the front of tender to the truck bed, giving some flex to the unit.

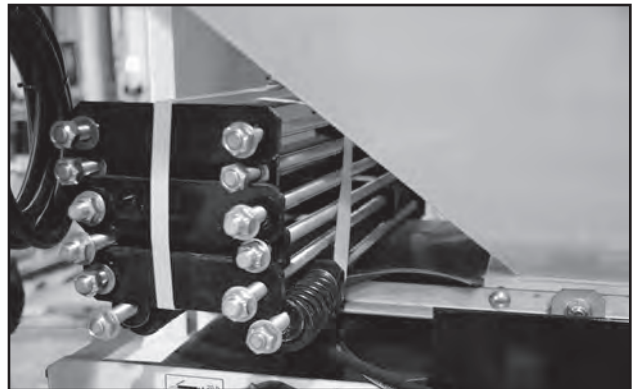


Fig 14 - Mounting Bracket Hardware

Sight Glass:

Each hopper in the tender is designed with an upper and lower sight glass to allow the operator to monitor the amount of material in the hopper.

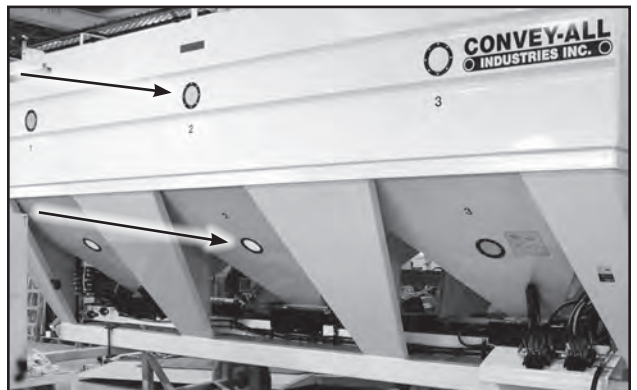


Fig 15 - Sight Glass

Remote Control (Optional):

The remote control functions correspond to the valve bank on the left side, at the rear of the CST.

If the unit comes with the weigh scale option, it's information will be controlled and displayed on the handset.

The handset comes with a neck strap, equipped with a safety quick release.

The Remote Control Receiver is mounted on the inside of the frame on the left side, at the rear, close to the valve bank.

Refer to the Remote Control's instruction manual for more detailed instructions.

⏻ ON/OFF Button (Red):

Turns the remote control on and off.

▼ CLOSE Button:

Closes selected hopper gate.

■ SELECT Button:

Press to choose a hopper, number displayed on LCD screen.

▲ OPEN Button:

Opens selected hopper gate.

UNFOLD Button:

Unfolds the Folding conveyor.

BELT ⏻ Button:

Turns both belts on and off.

FOLD Button:

Folds the Folding conveyor.

UP ▲ , DOWN ▼ , LEFT ◀ , RIGHT ▶ Buttons:

Swings, raises and lowers Folding conveyor into position.



Fig 16 - Remote Control Handset

3.3 MACHINE BREAK-IN

There are no operational restrictions on the tender when used for the first time.

The conveyor belt's alignment is set at the factory, to track correctly without carrying a load. It is important to check alignment and make adjustments, if required, during the first few minutes of operation.

It is recommended that the following procedural and mechanical items be checked:

Before Starting:

1. Read the engine, trailer and CST operator's manuals.
2. Review the Pre-Operation Checklist before starting machine.

At 1/2, 5 and 10 Hours:

3. Lubricate the points defined in Section 4: Service and Maintenance.
4. Check the tension and alignment of the conveyor drive systems. Adjust as required.
5. Check the conveyor belt's tension and alignment.
6. Check hardware and fasteners. Tighten to their specified torque.
7. If equipped, check the remote control. Be sure that it functions properly.
8. If equipped, check engine and hydraulic fluid levels.

After 10 Hours:

Go to the service schedule as defined in Section 4.2 Servicing Intervals.

3.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the CST requires that each operator reads the operating procedures. They should also understand all related safety precautions outlined in this manual. A pre-operational checklist is provided for the operator. It is important for both personal safety and maintaining the good mechanical condition of the delivery system that this checklist be followed.

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

1. Check engine fluid levels.
2. If equipped, be sure the battery is fully charged. If needed, charge the battery before connecting it with the battery cables.
3. Lubricate the machine per the schedule outlined in the Maintenance section.
4. Check that the Folding Conveyor swinging frame can move freely.
5. Check that the Folding Conveyor can fold freely.
6. Check that the conveyor belts are aligned and tensioned properly.
7. Remove all entangled material.

3.5 OPERATING ON SITE

The Convey-All CST is designed to handle any kind of seed, granular or chemical. Use the unit to transport it to or from the field as required.

Inspect the machine at the start of each day to be sure it is in good mechanical condition.

Follow these procedures when using the CST:

1. Review the Pre-Operation Checklist.
Refer to Section 3.5
2. Transport to the working location.
3. Set truck's park brake.
- Connect the hydraulic lines.
4. Open roll top cover.
5. Fill the hopper(s).
6. Close the roll-top cover.
7. Transport to the unloading area.
8. Remove the locking pin from the Folding Conveyor.
9. Move the folding conveyor into position.
Refer to page 3-3 for hydraulic valve operation.

Note:

The folding conveyor frame can be swung through a 80° arc, to fill more than one compartment on a planter, drill, distributor or spreader.

10. Start the conveyor belt(s).

Note:

Both Slave and Folding Conveyors are controlled with one valve. Each has a pre-set speed, so the Folding Conveyor will not become plugged from overfeeding.



Fig 17 - Drive Tender to Working Location

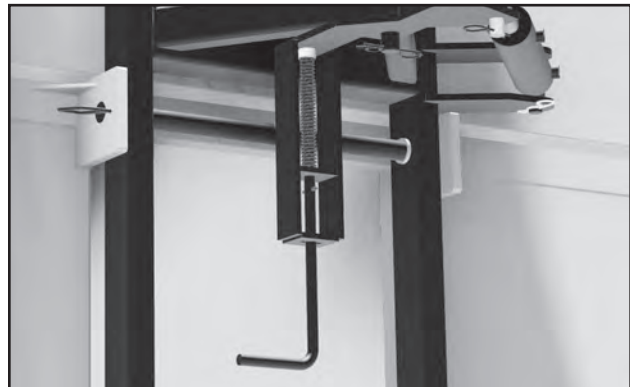


Fig 18 - Locking Pin



Fig 19 - Valves to Position Conveyor



Fig 20 - Conveyor Motor Valve

11. Control the speed of the conveyor belt, with the Oil Flow Regulator.



Fig 21 - Oil Flow Regulator



NOTICE: Plugging Hazard:
Open one hopper at a time to minimize the chance of plugging the unit.

12. Open the gate under the selected hopper to empty.
13. Close the gate to the empty compartment, before opening the next one.
14. Be sure to close all hopper gates when finished.
15. Turn off the conveyor belts.
16. Centre and return the Folding Conveyor completely, to its transport position.
17. Engage the locking pin on the conveyor before transporting or storing.
18. Close the valves from the truck's hydraulic system.



Fig 22 - Conveyor Ready for Transport



Fig 23 - Locking Pin

3.5.1 Stopping Conveyor:

1. Run until conveyor belt is empty.
2. Turn off valve to conveyor motor.
3. Now the engine can be turned off.

3.5.2 Emergency Stopping:

Although it is recommended that the conveyor belt be emptied before stopping, in an emergency situation, stop or shut-down the power source immediately.

Correct the emergency before resuming work.

3.5.3 Restarting after Emergency Stop:

When the machine is shut down inadvertently or in an emergency, the conveyor belt will still be covered with material.

Since the start-up torque loads are much higher than normal when the belt is covered. Restart at a low speed.



Fig 24 - Unloading into Floater

3.5.4 Unplugging:

If conveyor becomes plugged, follow this procedure:

1. Stop the conveyor belt.
2. Close the valve feeding the hydraulics.
4. Stop engine and remove ignition key.
3. Remove product from the discharge spout.
4. Close the hopper gate.
5. Remove any obstruction from between the hopper gate and conveyor.
6. Restart engine.
7. Start the conveyor belt.

If the conveyor belt is full, torque loads will be much higher than normal. Restart at a low speed.

3.6 OPERATING HINTS

- Swing the conveyor into the best possible position for convenient and easy unloading.
- Always listen for any unusual sounds or noises. If any are heard, 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. The visitor must leave before resuming work.
- For best results, conveyor belt should rotate at a speed of 400 to 500 ft./min.
- Do not run the machine for long periods of time with no material on the belting. This increases the wear. Try to run only when moving material.
- The conveyor hopper is designed with flashing to seal the junction of the belt with the sides of the conveyor's hopper. It must be kept in good condition to prevent the material from "leaking" out of the hopper. Replace flashing if "leakage" occurs.



Fig 25 - Feeding Equipment

3.7 STORAGE

After the season's use, or when the CST will not be used for a period of time, completely inspect all major systems of the tender.

Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

Follow these procedures before storing:

1. Remove all left over material from the machine.
2. Inspect all rotating parts for entanglements. Remove anything caught in the mechanisms.
3. Thoroughly wash the unit to remove all dirt, mud and debris.
4. Check the condition of the components in the hydraulic system. Repair, replace or adjust as required.
5. Check the condition of the Slave and Folding Conveyors. Replace any damaged belts.
6. Lubricate all fittings and fill grease cavities.
7. Touch up all paint nicks and scratches to prevent rusting.
8. It is best to store the machine inside.

If that is not possible, cover with a waterproof tarpaulin and tie down securely.
9. If equipped, remove the battery.
 - Be sure it is fully charged.
 - Store it inside.
 - Do not sit the battery on a cold, concrete floor.
10. Store in an area away from human activity.
11. Do not allow children to play around the stored tender.

3.8 REMOVING FROM STORAGE

When removing the machine from storage, follow the Pre-Operation Checklist in Section 3.5.



Fig 26 - CST in Storage

Section 4: SERVICE AND MAINTENANCE



Servicing Safety

- Review the Operator's Manual and all safety items before working with, maintaining the machine.
- Place all controls in neutral, stop engine, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- 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.
- Before applying pressure to the hydraulic system, make sure all components are tight and that all hoses and coupling are in good condition.
- Always use personal protective devices such as safety glasses, gloves and hearing protection, when performing any service or maintenance.
- Relieve pressure from hydraulic circuits before servicing or repairing.
- Keep hands, feet, hair and clothing away from moving and/or rotating parts.
- Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure unit is in a safe condition.
- Keep safety signs clean. Replace any sign that is damaged or not clearly visible.

4.1 FUELS, FLUIDS AND LUBRICANTS

Fuel & Engine Oil:

If equipped, refer to the engine operator's manual, to find specific instructions.

- crankcase capacity
- type of fuel to use

Hydraulic Oil:

If equipped, use a standard heavy-duty hydraulic oil for all operating conditions.

Grease:

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

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.

4.1.1 Greasing

Use the Service Record provided on page 4-11 to keep a record of all scheduled maintenance.

1. Use only a hand-held grease gun for all greasing. An air-powered greasing system can damage the seals on bearings and lead to early failures.
2. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
3. All bearings are sealed and greasable. They require minimal lubricant.

Recommended greasing is 1 small stroke every 2 weeks. Be careful not to over-grease, as this may push the seal out.

4. Replace and repair broken fittings immediately.
5. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.



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4.2 SERVICING INTERVALS

The periods recommended below are based on normal operating conditions. Severe or unusual conditions may require more frequent servicing.

Schedules may vary depending on equipment options and engine model contained in the present unit.

The conveyor belt alignment is preset to run true under a condition of no load. It is important to check alignment and make adjustments, if required, during the initial few minutes of operation.

Check bearing for wear daily.

4.2.1 Every 10 Hours or Daily:

If Equipped with Self-Contained Hydraulic Pack:

1. Check fuel level.
2. Check engine oil level.
3. Clean air filter
4. Check hydraulic oil level.

4.2.2 Every 50 Hours, 50 Loads or Weekly:

All Tenders:

5. Grease the Slave Conveyor's drive roller bearings.
 - Both sides.



Fig 27 - Drive Roller Bearings

6. Oil chain on the hydraulic drive.

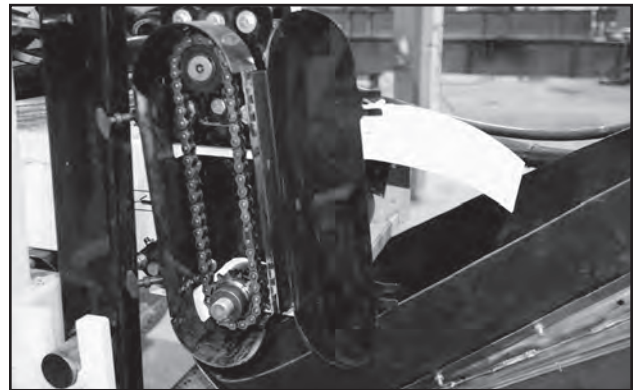


Fig 28 - Hydraulic Motor Drive Chain

7. Grease the Slave Conveyor's tail roller bearings.
 - Both sides.



Fig 29 - Tail Roller Bearings

- Grease the Folding Conveyor's drive and discharge roller bearings.

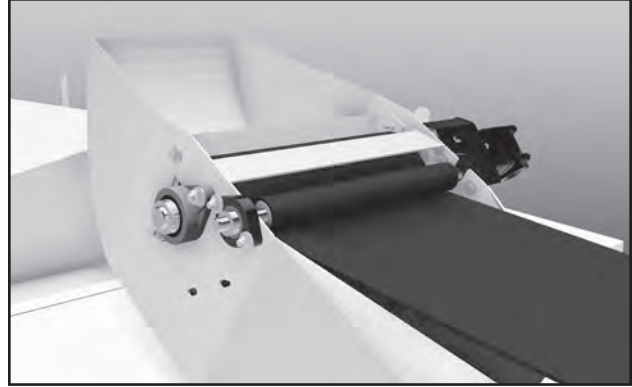


Fig 30 - Discharge Rollers, Folding Conveyor

- Oil the chain in the hydraulic motor.

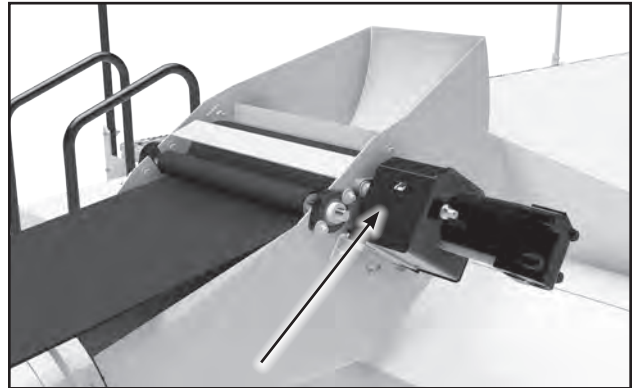


Fig 31 - Hydraulic Motor

- Grease the tail roller bearings.



Fig 32 - Tail Roller, Folding Conveyor

- Grease all pivot points.

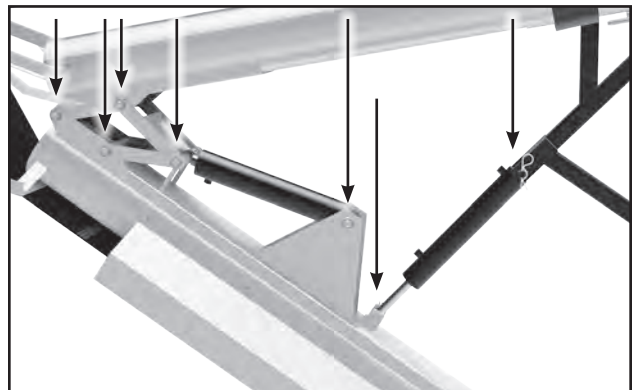


Fig 33 - Folding Conveyor

12. Grease all swing points.

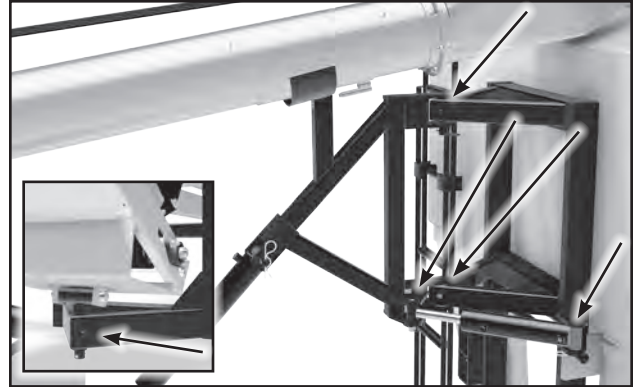


Fig 34 - Folding Conveyor's Hydraulic Motor

13. Grease the gate cylinder end bushings.



Fig 35 - Gate Cylinder

14. Check the tension and alignment of the Slave and Folding Conveyors.

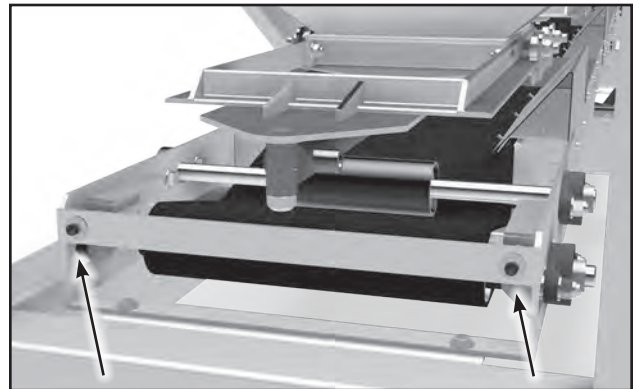


Fig 36 - Tension Bolts, Slave Conveyor



Fig 37 - Tension Bolts, Folding Conveyor

4.2.3 Every 200 Hours, 200 Loads or Monthly:

If Equipped with Self-Contained Hydraulic Pack:

15. Change engine oil and filter.
16. Change air filter.
17. Change hydraulic oil and filter.
18. Change in-line fuel filter.

All Tenders:

19. Wash machine.



Fig 38 - Clean Tender

4.3 MAINTENANCE PROCEDURES

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free operation.

4.3.1 Slave Conveyor Drive Chain:

The conveyor is driven by a chain from the hydraulic motor. The chain is tightened by moving the motor mounting bolts.



WARNING: Guards Removed
Drive is shown with guard open for illustrative purposes only. Never operate machine with guards opened or removed.

1. Loosen hydraulic motor mounting bolts.
2. Move the motor and sprockets to set the chain tension.
 - Move motor to its loosest position to replace the chain.
3. Tighten anchor bolts.



NOTICE: Misalignment
Always check the sprocket alignment when replacing the chain.

4. Oil Drive Chain.
5. Always close and secure the guard before resuming work.



Fig 39 - Hydraulic Motor, Slave Conveyor

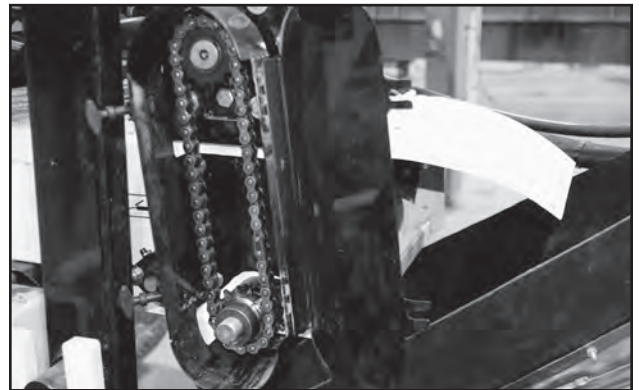


Fig 40 - Chain Drive, Guard Open

4.3.2 Conveyor Belt Tension:

The tension and alignment of the conveyor belts should be checked daily to insure proper function. Replace the belt when damaged or badly worn. To maintain belt, follow this procedure:

1. Place all controls in their neutral or off position.
2. Stop engine, remove ignition key and lock-out.

Note:

The belt is tensioned correctly when it does not slip on the drive roller when loaded.

3. The tension is set and controlled by the tension bolts on the tail end of both conveyors.
4. Loosen the tail roller bearing assembly.
5. On the slave conveyor, move both tension bolts the same amount to tension the belt.
6. On the Folding Conveyor, tighten or loosen tension bolts until the spring measures 3-3/4 inches (95 mm).
7. Tighten the roller assemblies.
8. Run the conveyor to test its tension.

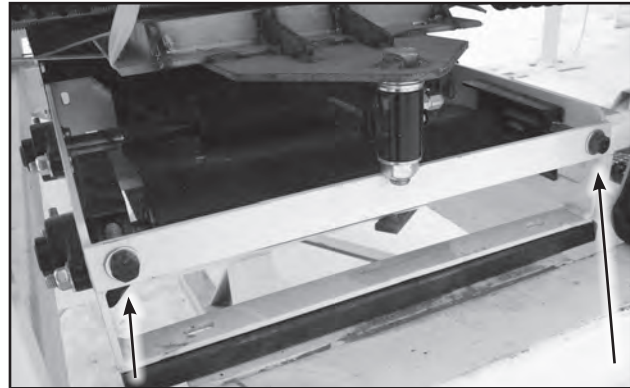


Fig 41 - Tension Bolts, Slave Conveyor

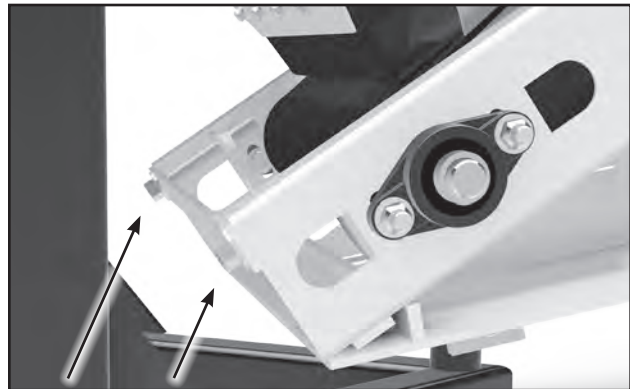


Fig 42 - Tension Bolts, Folding Conveyor

4.3.3 Conveyor Belt Alignment:

The belt is properly aligned when it runs in the centre of the frame and the rollers. Be sure to run the conveyor a full revolution to check the entire belt.

The belt can move from side-to-side while it is turning as long as it doesn't contact the sides. If it touches the sides, it must be aligned.

Note:

If belt is out of alignment, it will move to the loose side. Tighten loose side or loosen tight side.

1. Loosen the roller bearing assembly on the correct side. of either the drive or tail roller.
2. Move the bearing assembly to align the belt.
3. Tighten the bearing assembly, then run the belt to check alignment. Repeat, until it runs centred.

4.3.4 Conveyor Belt Replacement:

The Slave Conveyor's belt must be replaced by accessing the belt at the tail end.

The Folding Conveyor's belt can be accessed by removing the lower guard. Straighten the Folding Conveyor and lower it, so the belt can be accessed throughout its length.

1. Loosen, and move the tail roller bearing assembly into its loosest position.
2. Open the conveyor belt by removing the connecting rod in the lacing.
3. Attach the replacement belt to the end of the old belt.
4. Slowly pull the old belt out of the machine. The new one will thread into position.
5. Disconnect the old belt.
6. Connect the ends of the new one together.
7. Work a new rod into the lacing. Crimp the end.
8. Move the rollers into position.
9. Set the tension of the belt and secure the bearing assemblies.
10. Check the tension and alignment of the conveyor belt frequently during the first 10 hours of operation.

Adjust as required.

Then, go to the regular service schedule.

Note:

Normally, a conveyor belt will seat itself during the first 10 hours of operation, then requires little to no adjustment.

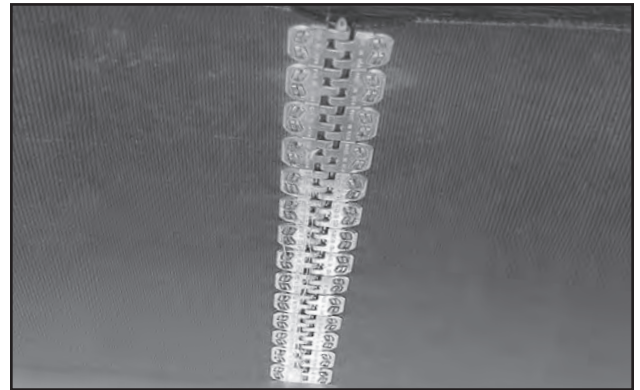


Fig 43 - Alligator Belt Lacing

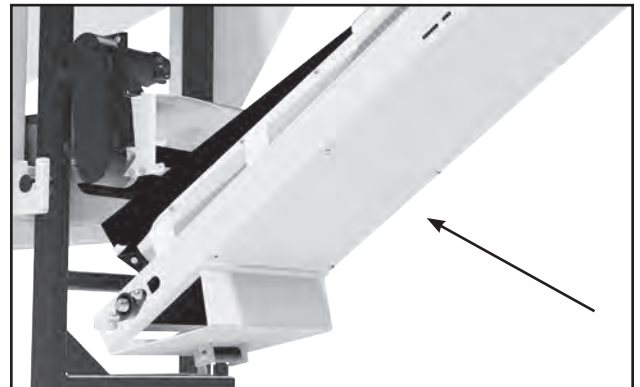


Fig 44 - Belt Guard

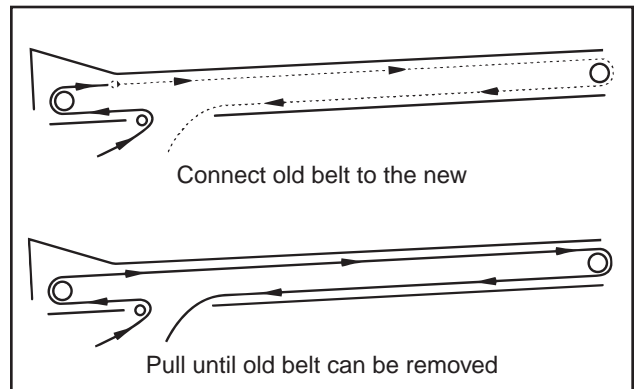


Fig 45 - Threading the Belt

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Section 5: TROUBLE SHOOTING

In the following trouble shooting section, we have listed many of the problems, causes and solutions to the problems which you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please contact your authorized dealer, distributor or the factory. Before you call, please have this Operator's Manual and the serial number from your machine ready.

Problem

Possible Cause	Possible Solution
Engine/Motor labouring	
Belt is sticky on the back side, because of oily product or wet/snowy conditions	Clean the belt
Hopper flashing too tight	Adjust to loosen the flashing
Air cleaner dirty, if equipped	Clean the air cleaner, and/or replace the air filter
Belt not turning	
Hopper flashing may be stuck to belt, because it is running dry and rubber is heating up	Turn off unit! Manually peel flashing up and off hopper. Then run dry product through to create barrier between flashing and belt
Belt doesn't track correctly	
Roller lagging may be worn	Replace roller or have it relagged
Product leakage	
Product may be getting under the belt at the hopper, traveling up inside the belt and leaking off delivery end	Replace hopper flashing
Conveyor won't run	
No power	Start engine, increase speed to maximum RPM

Problem cont'd

Possible Cause	Possible Solution
-----------------------	--------------------------

Low capacity

Hydraulic system - valve, pump or motor could be malfunctioning	Check and adjust pressure set screw on valve. Test flow from pump. Check for oil leaks under motor. Replace what is needed.
-----------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------

Remote control (if equipped) not functioning

Batteries may have died during storage	Ensure batteries are good
Batteries replaced, but still won't work	Need to synchronize Remote Control to Receiver

No hydraulic flow

Flow valve closed	Open flow circuit valve
Hydraulic filter plugged	Replace plugged hydraulic filter

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Section 7: REFERENCE

For information not included here, or for a digital copy of this manual, please call your dealer or Convey-All Industries Inc. directly for assistance (1-800-418-9461).

7.1 SPECIFICATIONS

Model	Length	Width	Height	Min, Max Discharge Height	Conveyor Length	Conveyor Swing	Total Capacity	Total Tons	Number - Size of Compartments	Cubic Feet per Hopper
CST-1634	27' 3"	8'	13' 5"	9' 9" @ 23° * 11' 10" @ 30° *	20'	80°, 25' 7"	606 cu. ft. (487 bu.)	14.5	2 - 8'	8' = 303
CST-1834	29' 4"	8'	13' 5"	9' 9" @ 23° * 11' 10" @ 30° *	20'	80°, 25' 7"	696 cu. ft. (560 bu.)	16.7	3 - 6'	6' = 232
CST-2034	31' 3"	8'	13' 5"	9' 9" @ 23° * 11' 10" @ 30° *	20'	80°, 25' 7"	767 cu. ft. (616 bu.)	18.4	2 - 6' 1 - 8'	6' = 232 8' = 303
CST-2434	35' 4"	8'	13' 5"	9' 9" @ 23° * 11' 10" @ 30° *	20'	80°, 25' 7"	909 cu. ft. (730 bu.)	21.8	2 - 6' 1 - 8'	6' = 232 8' = 303

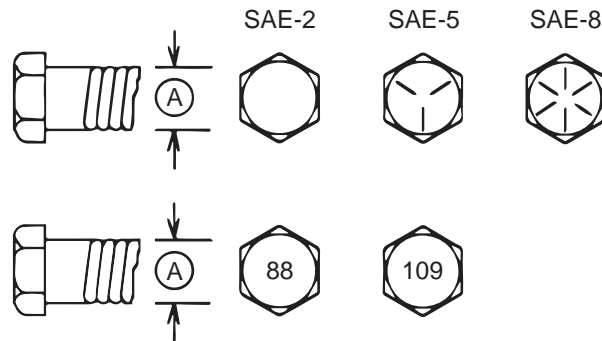
* Measurements based on 36" high truck bed

7.2 BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

ENGLISH TORQUE SPECIFICATIONS						
Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970

METRIC TORQUE SPECIFICATIONS				
Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.



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