SELF PROPELLED TUBE CONVEYOR with MECHANICAL BELT DRIVE
Models:
TCH-1000 Series, TCSNH-1000 Series
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 extents 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
CONVEY-ALL
SELF PROPELLED TUBE CONVEYOR with MECHANICAL BELT DRIVE

WARRANTY REGISTRATION FORM & INSPECTION REPORT

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

Customer’s Name __________________________ Dealer’s Name __________________________
Address ________________________________ Address ________________________________
City ________________________________ City ________________________________
State/Prov, Code __________________________ State/Prov, Code __________________________
Phone Number ( ____ ) __________________________
Tube Conveyor Model Number ________________
Tube Conveyor Serial Number ________________
Delivery Date ________________________________

DEALER INSPECTION REPORT
☐ All Fasteners Tight
☐ Drive System Rotates Freely
☐ Drive Belts Aligned and Tensioned
☐ Driveline Secured to Machine
☐ Conveyor Belt Aligned and Tensioned
☐ All Belts Move Freely
☐ Hydraulic Hoses Free and Fittings Tight
☐ Checked Engine Fluid Levels
☐ Lubricated Machine
☐ Tire Pressure Checked

SAFETY INSPECTION REPORT
☐ All Guards, Shields Installed and Secured
☐ All Safety Signs Installed and Legible
☐ Reflectors and SMV Clean
☐ 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 __________________________ Owner’s Signature __________________________

-------------- WHITE -------------- YELLOW -------------- PINK --------------
                                                                      CONVEY-ALL DEALER CUSTOMER

updated 3.2015
PRODUCT INFORMATION

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

The serial number for the conveyor is located on the left side above the transition between the hopper and the tube. Please mark the number in the space provided for easy reference.

![Serial Number Location](image)

Tube Conveyor Model Number: ________________________________
Tube Conveyor Serial Number: ________________________________
Engine Model Number: ________________________________
Engine Serial Number: ________________________________
Production Year: ________________________________
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Section 1: INTRODUCTION

Congratulations on your choice of a Convey-All Self Propelled Tube Conveyor with Mechanical Belt Drive to complement the seed delivery system in your farming operation. This equipment has been designed and manufactured to meet the exacting standards for such equipment in the agricultural industry and will keep your seed delivery operation working at optimum efficiency.

This manual covers the Self Propelled Tube Conveyor with Mechanical Belt Drive manufactured by Convey-All Industries Inc.

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

Use the Table of Contents as a guide to locate required information.

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 if you need assistance, information, additional/replacement copies or a digital copy of this manual.

OPERATOR ORIENTATION - The directions: left, right, as mentioned throughout this manual, are as seen from the Hopper and facing the Discharge Spout.
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 Self Propelled Tube Conveyor with Mechanical Belt Drive and in this manual. When you see this symbol, be alert to the possibility of equipment damage, personal injury or death. Follow the instructions in the safety message.

SIGNAL WORDS:

Note the use of the signal words: DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines.

DANGER - Indicates an imminently hazardous situation that, 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 that, if not avoided, could result in death or serious injury, and includes 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 also be used to alert against unsafe practices.
2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE operation and maintenance of your Convey-All tube conveyor. Be sure that you and anyone else who will be operate, maintain or working around the machine be familiar with the safety, operating and maintenance procedures in this manual. 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 conveyor.

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.

- Conveyor 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. 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.
- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

1. Read and understand the Operator’s Manual and all safety signs before operating, maintaining, adjusting or unplugging the conveyor.

2. Only trained competent persons shall operate the conveyor. An untrained operator is not qualified to operate the machine.

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

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

5. Do not allow riders.

6. Do not allow children, spectators or bystanders within hazard area of machine.

7. Wear appropriate protective gear. This list includes but is not limited to:
   - Hard hat
   - Protective shoes with slip resistant soles
   - Eye protection
   - Heavy gloves
   - Hearing protection
   - Respirator or filter mask

8. Place all controls in neutral or off, stop engine. Wait for all moving parts to stop before servicing, adjusting, unplugging or repairing.

9. Review safety related items annually with all personnel who will be operating or maintaining the conveyor.
2.3 EQUIPMENT SAFETY GUIDELINES

1. Safety of the operator and bystanders is one of the main concerns in designing and developing this conveyor. 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 these precautions and insist those working with you, or for you, follow them also.

2. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety guards removed. Equipment should never be operated in this condition. Keep all guards in place. If removal becomes necessary for repairs, replace the guard prior to use.

3. Replace any safety or instruction sign that is not readable or is missing.

4. 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.

5. Do not allow persons to operate or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works. Review the safety instructions with all users annually.

6. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with farm machinery and trained in this equipment’s operations.

If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.

7. 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.

8. 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

1. 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.

2. Hazard control and accident prevention are dependent upon the personnel operating and maintaining the conveyor. Their awareness, concern, prudence and proper training are crucial.

3. 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 this manual and to follow them.

4. Working with unfamiliar equipment can lead to careless injuries. Read this manual before operating, to acquaint yourself with the machine. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner’s responsibility to make certain that the operator, prior to operating:
   • Reads and understands the operator’s manuals.
   • Is instructed in safe and proper use.

5. Know your controls and how to stop the tractor, engine and conveyor quickly in an emergency. Read this manual and the one provided with your power unit.

6. 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.

   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.

   If the elderly are assisting with farm work, their physical limitations need to be recognized and accommodated.

2.5 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.

2. Replace safety signs that are missing or have become illegible.

3. Replaced parts that displayed a safety sign should also display the current sign.

4. All safety signs have a part number in the lower right hand corner. Use this part number when ordering replacements.

5. Safety signs 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

1. Never operate the conveyor and its engine and until you have read and completely understand this manual, the power unit’s operator’s manual, and each of the safety messages found on the safety signs on the power unit and machine.

2. Personal protection equipment including:
   - Hard Hat
   - Eye protection
   - Protective shoes
   - Heavy gloves
   are recommended during installation, placement, operation, adjustment, maintaining, repairing and removal of the implement.

3. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.

4. 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 you wear hearing protection 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.

5. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.

6. Operate only in daylight or good artificial light.

7. Be sure machine is properly mounted, adjusted and in good operating condition.

8. Ensure that all safety shielding and safety signs are properly installed and in good condition.

9. Before starting, give the machine a “once over” for any loose bolts, worn parts, cracks, leaks, frayed belts and make necessary repairs. Always follow maintenance instructions.
2.7 MAINTENANCE SAFETY

1. Review the Section 4: Service and Maintenance of this Manual before working with, maintaining or operating the conveyor.

2. 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.

3. Place all controls in neutral or off, stop engine, remove ignition key or disable power source and wait for all moving parts to stop before servicing, adjusting, unplugging or repairing.

4. Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition.

5. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.

6. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.

7. Replace parts with genuine factory replacements parts to restore your equipment to original specifications. Convey-All Industries Inc. will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.

8. Make sure there is plenty of ventilation. Never operate the engine in a closed building. The exhaust fumes may cause asphyxiation.

9. Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.

10. Place stands or blocks under the frame before working beneath the machine.

11. Before resuming work, install and secure all guards when maintenance work is completed.

12. Keep safety signs clean. Replace any sign that is damaged or not clearly visible.

2.8 TIRE SAFETY

1. Failure to follow procedures when mounting a tire on a wheel or rim can produce an explosion and 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.
2.9 ENGINE SAFETY

Read and understand the operating manual provided with the engine.

1. Use proper tools to service engine.

2. Do not run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.


4. Do not store fuel near an open flame.

5. No smoking when filling fuel tank.

6. Do not remove fuel cap while engine is running.

7. Do not refuel indoors where area is not well ventilated. Outdoor refueling is preferred.

8. Do not refuel while engine is running. Allow engine to cool for 5 minutes before proceeding.

9. Use fresh fuel. Stale fuel can gum carburetor and cause leakage.

10. Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

11. Do not operate engine if fuel has spilled. Move machine away. Avoid creating any ignition until the fuel has evaporated.

12. Do not run engine above rated speeds. This may result in damage and injury.

13. Do not tamper with the engine speed selected by the original equipment manufacturer.

14. Do not tamper with governor springs, governor links or other parts which may increase the governed engine speed.

15. Do not strike flywheel with a hard object or metal tool. This may cause it to shatter in operation.

16. Keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.

17. Do not operate engine with grass, leaves, dirt or other combustible materials in muffler area.

18. Do not operate engine without muffler.

WARNING: Hot Equipment
Do not touch muffler, cylinder or fins while engine is running. Contact will cause burns.

19. Do not use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator.

In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

20. Inspect muffler periodically. Replace if necessary.

21. Do not check for spark, or crank engine with spark plug or spark plug wire removed.

WARNING: Possible Engine Damage
Decelerate engine slowly to stop. Avoid choking the carburetor to stop engine. Choke only for an emergency stop.

22. Do not run engine with air filter or air it’s cover removed.
2.10 WORKPLACE HAZARD AREA

Fig 2 - Workplace Hazard Area
2.11 OPERATING SAFETY

1. Be sure that anyone who will be operating the machine or working on or around the unit reads and understands the operating, maintenance and safety information in this operator’s manual. Review the manual annually.

2. Clean or replace all safety signs if they cannot be clearly read and understood.

3. Stop the engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

4. Keep all bystanders, especially children, away from the machine when running, or when carrying out maintenance work.

5. 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 equipment.

6. Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.

7. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.

8. Do not allow riders on the conveyor when transporting.

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

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

11. Do not operate machine when any guards are removed.

12. Set park brake on tractor, chock wheels of conveyor before starting.

13. Be sure that conveyor is empty before raising or lowering.

14. Close valves in hydraulic line when machine positioned or before transporting.

2.12 LOCK-OUT TAG-OUT SAFETY

1. Establish a formal Lock-Out Tag-Out program for your operation.

2. Train all operators and service personnel before allowing them to work around the unloading system.

3. Provide tags on the machine and a sign-up sheet to record tag out details.
2.13 TRANSPORT SAFETY

1. Be sure that conveyor is empty before raising or lowering.
2. Always transport conveyor in collapsed position.
3. Comply with all local laws governing safety and transporting of equipment on public roads.
4. Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
5. Do not exceed a safe travel speed. Slow down for rough terrain and when cornering.
6. Stay away from overhead power lines. Electrocution can occur without direct contact.
7. Plan your route to avoid heavy traffic.
8. Do not drink and drive.
9. 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.
10. Never allow riders on the conveyor.

2.14 STORAGE SAFETY

1. Store the conveyor on a firm, level surface.
2. Store in an area away from human activity.
3. If required, make sure the unit is solidly blocked up.
4. Make certain all mechanical locks are safely and positively connected before storing.
5. Do not permit children to play on or around the stored machine.
2.15 SAFETY SYMBOL IDENTIFICATION

There are many types of safety symbols on signs in many locations on the tube conveyor. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without signs, new signs must be applied. New signs are available from your authorized dealer.
Section 3: OPERATION

The Convey-All Self Propelled Tube Conveyor with Mechanical Belt Drive is designed to efficiently move grain, pulse crops, or granular material from a truck or trailer, to a storage facility. Power is provided by a gas engine. Be familiar with the machine before starting.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. It is everyone’s business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the work site.

The design and configuration of this conveyor includes safety signs 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 tube conveyor will provide many years of trouble free service.

Operating Safety

• Read and understand the Operator’s Manual, and all safety signs, before using.

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

• Clear the area of bystanders, especially children, before starting.

• Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.

• Keep hands, feet, hair and clothing away from all moving and/or rotating parts.

• Do not allow riders on the conveyor when driving mover kit.

• Stay away from overhead obstructions and power lines during operation. Electrocution can occur without direct contact.

• Do not operate machine when any guards are removed.

• Chock wheels of conveyer before starting conveyer.

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

• 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.
3.1 MACHINE COMPONENTS

The tube conveyor is available in a variety of lengths for the most demanding needs.

A gas engine supplies power to the self contained hydraulic system.

The hydraulics is used to manoeuver the machine and operate the conveyor belt. A hydraulic cylinder is used to raise or lower the tube.

These are the main components and some of the options available:

a. Main Tube  
b. Hopper  
c. Discharge Spout  
d. Scissor Lift Undercarriage  
e. Hopper Winch  
f. Conveyor Belt Wind Guard  
g. Conveyor Belt Alignment and Tension Springs  
h. Gas Engine  
i. Fuel Tank  
j. Hydraulic Reservoir  
k. Hydraulic Valve Bank  
l. Drive Box  
m. Drive Belts  
n. Drive Wheels  
o. Steering Wheels  
p. Document Holder  
q. Hitch and Jack Storage Plate  
r. Hitch  
s. Jack

Fig 4 - TCSNH-1075-MK2 Tube Conveyor
3.2 MACHINE BREAK-IN

There are no operational restrictions on the self propelled conveyor unit when used for the first time. Even though, it is recommended that the following mechanical items be checked:

**Before Starting Work:**
1. Read the conveyor and power unit operator’s manuals.
2. Run the unit for half an hour to seat the conveyor belt and flashing around the intake hopper. It is normal for rubber from the flashing to be expelled out the discharge and form a pattern on the belt.

**After Operating or Transporting for 1/2 hour:**
1. Re-torque all the wheel bolts fasteners and hardware.
2. Check the drive and conveyor belt tension and alignment. Tension or align as required.
3. During the conveyors first few minutes of operation, check belt alignment to ensure preset alignment and tension does not vary under loaded conditions.
4. Check the flashing seal on the input hopper. If any grain comes out of the hopper around the flashing, stop, loosen flashing mounting screws and adjust. Retighten anchor screws and try again. Repeat until no grain is lost.
5. Check condition of all hydraulic lines, hoses and connections. Repair or replace any damaged system components.
6. Check that all guards are installed and working as intended.

**After Operating For 5 Hours and 10 Hours:**
Repeat steps 1 through 6 above.

Go to the normal servicing and maintenance schedule as defined in the Section 4: Service and Maintenance.

3.3 PRE-OPERATION CHECKLIST

Efficient and safe operation of the 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. Service the machine as per the schedule outlined in the Section 4.2.
2. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
3. Check worksite. Clean up working area to prevent slipping or tripping.
4. Check that conveyor belt is properly tensioned and aligned. Ensure it is not frayed or damaged. Refer to Section 4.3.1 and 4.3.2
5. Check the drive belt tension and alignment. Refer to Section 4.3.4 and 4.3.5
6. Be sure conveyor wheels are chocked.
7. Check that discharge and intake areas are free of obstructions.

CAUTION: Upending Hazard
Anchoring or support conveyor during operation. When lower half of Conveyor empties of material, the weight balance transfers to the upper end of the machine, which can cause upending.
3.4 COMPONENTS AND CONTROLS

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

Gas Engine:
Below are descriptions of the controls. Read the engine manual for more detail:

a. Ignition Switch:
This switch controls the electrical power to the engine electrical system. Insert the key, turn clockwise to start. Turn counterclockwise to turn OFF.

b. Choke:
This lever controls the position of the choke. Slide the lever to the right to close the choke valve for starting when the engine is cold. Slide to the left to open the choke as the engine warms.

Always open the choke fully when operating the conveyor.

c. Throttle:
This lever controls the engine RPM. Move the lever right to increase the engine speed and left to decrease.

Always run at maximum engine RPM when operating the conveyor belt.

d. Winter/Summer Valve:
Make sure this valve is in the correct location relative to the weather conditions.

e. Electric Clutch Switch:
Once the engine is running, engage the electric clutch, to run the hydraulic pump.

CAUTION: Equipment Failure Possible
Always turn off electric clutch when hydraulics are not in use. If left running, it will overheat the oil and drain electrical system.

The electric clutch is situated behind the engine to the left. It gives power to the hydraulic pump.
f. **Conveyor Belt Clutch Switch:**
   There are 2 switches to start the clutch which operates the conveyor belt.
   
   One is attached to the frame below the engine.
   
   The other conveyor belt clutch switch is beside the drive belt, attached to the frame with a magnet.
   
   This switch has an extension cord attached. It can be removed from the frame, and operated as a corded control switch.

g. **Working Light Switch:**
   Light switch is on the side of the fuse box, next to the engine.
Hydraulic Controls:
The hydraulic valve bank is beside the engine.

a. Conveyor Tube Lift:
This 3 position, spring-loaded lever controls the height of the main frame.
• Push the lever forward and hold, to raise the frame.
• Pull and hold to lower the frame. Release the lever stop the frame from moving.

Note:
There is a hydraulic valve located on the frame. These valves must be open to raise or lower the conveyor frame. Close the valve to lock it in position.

b. Hopper Height:
This 3 position, spring-loaded lever controls the height of the steering wheels below the hopper. Push the lever forward and hold, to lower the wheels for moving the unit. Pull and hold, to raise the wheels, lowering the hopper into position for unloading. Release the lever and the hopper frame will stop moving.

c. Mover Kit:
This 4 position, spring-loaded lever controls the movement of the conveyor. It drives the wheels forward and reverse. The lever also turns the steering wheels left and right.

Note:
Watch wheels when holding lever.
Turn the steering wheels only as much as required.

d. Hydraulic Pressure Gauge:
This gauge displays the hydraulic pressure in the machine moving and lifting circuits.

Hydraulic Valve to Conveyor Tube Lift Cylinder:
This valve allows oil into or out of the hydraulic cylinder that raises/lowers the tube.
See Figure 11

IMPORTANT:
Hydraulic valve must be fully opened prior to lifting/lowering conveyor. Valve must be closed fully when conveyor is to remain in fixed position, to prevent the ram from creeping downward during operation, transportation or storage.
Hopper:
Hoppers can be designed with either:
• a spring loaded hopper frame. This will allow the truck box to push the hopper edge down when raising the hoist. This design comes with a clip on the frame to hold the canvas sides down when required.

• a hopper frame with winch. This facilitates positioning the hopper under a bin. The winch is used to raise and lower the frame.

All hoppers have rubber flashing to seal the junction between the belt and the sides of the hopper.

Hopper Winch (Optional):
This winch is located on the side of the tube just above the hopper. It is used to raise and lower the hopper frame.

WARNING: Unexpected Movement
Do not release handle when ratchet lever is in unlocked position with load on winch. Handle could spin violently causing serious injury.

Rail Car Hopper (Optional):
This hopper has a very low profile to allow for positioning under a rail car hopper. It comes with a manual winch to raise and lower the hopper sides.
Hopper Steering Wheels:
The wheels at the hopper are steerable, and turn the unit when manoeuvring. Use the levers on the hydraulic valve bank to operate.

Hydraulic cylinders are used to raise and lower the wheels. Raising, drops the hopper to sit on the ground for unloading. Lowering the wheels, lifts the hopper, for moving the unit.

Hydraulic check valves lock the wheels, when they are raised.

**IMPORTANT:**
Do not extend the wheel cylinders fully.
Raising the hopper too high may cause it to upend.

Discharge Spout:
The discharge spout is designed with six settings to position the hood.

Move it into the one of the hole settings if the material needs to be directed further out rather than straight down.

Remove the position bracket and flip the hood back to throw the material as far as possible. This configuration works well when making piles or inside buildings.

Drive Wheels:
The wheels below the engine use hydraulics to drive the conveyor unit. They have a lever to manually engage or disengage the drive mechanism. When disengaged, insert the retaining clip to secure.

CAUTION: Equipment Damage Likely
Always disengage drive wheels before transport. Hydraulic motors will be damage if driven at highway speeds.

Working Lights:
The conveyor is designed with lights to illuminate the hopper and discharge ends of the machine. The 12 volt DC working lights make operating the conveyor at any time safe and convenient.

Use the switch beside the valve bank work them.
Hitch and Jack Storage:
There is a plate mounted to the conveyor’s undercarriage. This is where the hitch and jack can be placed for storage, when not in use.

Angle of Operation Indicator:
On the drive box, is a decal to assist in calculation of operating angle.

Hold a weighted string against the arrow (above the Convey-All logo). Reference the graph and read where the string lies.

Cable Bridging:
This bridging needs to be adjusted periodically to keep the tube straight. Refer to Section 4.2.3

S-Neck Transition (Optional):
This type of transition is used for hoppers with a low profile.

The conveyor belt is threaded through an “S” pattern to transition between the hopper and incline portion of the unit.

A special undercarriage and rollers are used for this model.
3.5 ATTACHING TO TOW VEHICLE

It is recommended that the conveyor be attached to a truck, whenever it is transported over longer distances.

Follow this procedure when attaching to or unhooking from a tow unit:

**WARNING: Electrocution Hazard**
Ensure enough clearance from overhead obstructions, power lines or other equipment.

1. Clear the working area of bystanders, especially small children.

2. If the conveyor is above a storage facility:
   - Start the engine
   - Turn on the electric clutch
   - Manoeuver the conveyor away from the bin.
   - Move it until the discharge spout clears the bin.
   - Lower the tube to its lowest position before attaching to tow vehicle.

   **Important:**
   Before starting conveyor engine, ensure electric clutch is off.

3. Watch that there is sufficient room and clearance to move the conveyor away.

4. The hitch and jack are removable.

   **CAUTION: Upending Hazard**
The machine is closely balanced. Do not lift unless there is downward weight on the hopper end to prevent upending.

5. With engine running, lower the steering wheels to raise the hopper high enough to install the hitch. Secure with an anchor pin and retainer clip.

6. Install the jack using its anchor pin and retainer clip.
7. Using the jack or steering wheels; raise the hopper and hitch to the drawbar height on the tow vehicle.

8. Align the tow vehicle’s drawbar with the hitch of the conveyor while backing up.

9. Set the park brake before dismounting.

10. Connect the hitch to the tow vehicle using the pin and retainer.

11. Secure the safety chain around the drawbar cage to prevent unexpected separation.

12. Remove the jack and store.

13. Retract the steering wheels. Hydraulics will lock in place.

14. Turn off the electric clutch.

15. Turn off the conveyor’s engine.

CAUTION: Equipment Damage Likely Always disengage drive wheels before transport. Hydraulic motors will be damage if driven at highway speeds.

16. Disengage wheel drive assemblies on both wheels. Secure with a retainer clip.

17. Before transporting, refer to Section 3.9.

18. Reverse the above procedure when unhooking.
3.6 CONVEYOR PLACEMENT

Follow this procedure when placing the conveyor into its working position:

1. Clear the area of bystanders, especially small children, before starting.

2. Transport the conveyor to the working area. Refer to Section 3.9

3. Attach jack, lower it to the ground.

4. Detach the conveyor from the tow vehicle.

5. Remove the hitch from conveyor to prevent interference and remove safety hazard.

   DANGER: Electrocution Hazard
   Ensure enough clearance from overhead obstructions, power lines or other equipment.

6. Remove the retainer clip, then engage the drive wheels on the conveyor’s mover kit.

   Important:
   Before engine start, ensure electric clutch is turned off.

7. Start the engine.

8. Turn on electric clutch, to start the hydraulic pump.

9. Lower the steering wheels.

10. Raise the jack, and remove if desired. Store it.

11. Use the hydraulic valves to manoeuvre the conveyor up to the storage facility.

12. Open hydraulic valve. Use hydraulic lever to raise the conveyor tube.
13. Advance until the discharge spout is in position above the opening in the bin/hopper.

Or, advance until the conveyor hopper is in position below the bin/hopper.

14. Raise the steering wheels, to lower the hopper to the ground.

15. Lower the discharge spout into final working position.

**Important:**
To prevent damage to conveyor tube and belt, be sure it does not rest on any structure.

![Fig 32 - Spout in Position](image)

CAUTION: Upending Hazard
Always check the weight of the hopper end to prevent upending.

16. Place chocks around each wheel.

17. Stake or weigh down the hopper end to prevent upending when the machine is emptying.

18. Close the hydraulic valve to lock conveyor tube in position.

19. Reverse the above procedure remove from location.
3.7 OPERATING ON SITE

When operating the conveyor, follow this procedure:

1. Clear the area of bystanders, especially small children, before starting.

2. Review the Pre-Operation Checklist before starting. Refer to Section 3.3

3. Review the Workplace Hazards schematic and use extra care when inside the hazard area. Keep all spectators and bystanders out of this area. Should anyone enter this area, stop the machine immediately.

4. Check that all guards are in place and working as intended.

5. Back the truck/tender into position for loading or unloading.

3.7.1 Starting Conveyor:

**Important:**
Before engine start, be sure electric clutch is turned off.

1. Move throttle to the idle position.

2. Close the choke if the engine is cold or if the unit has not been run for a while.

3. Turn the ignition key clockwise to start the engine. Release the key when the engine starts.

4. Run for 2-3 minutes to allow the engine to warm.

5. Flip switch to start the electric clutch.

6. Turn on the conveyor belt using one of two control switches.

7. Increase engine speed to full throttle.

8. Start the flow of material and unload into hopper.
3.7.2 Stopping Conveyor:
1. Stop unloading. Wait for conveyor belt to empty.

2. Switch off conveyor belt.

3. Move the throttle to idle position.

4. Turn off electric clutch.

5. Turn off engine and remove ignition key.

3.7.3 Emergency Stopping:
Although it is recommended that the tube be emptied before stopping, in an emergency situation, stop or shut-down the power source immediately.

See to the emergency. Correct before resuming work.

3.7.4 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 start-up torque loads are much higher than normal when belt is full, restart at a low engine speed.

Remove as much product from the hopper as possible.

It may be necessary to tighten the drive belt slightly to handle the heavier than normal loads.

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

1. Switch off conveyor belt.

2. Turn off electric clutch. Stop engine, and wait for all belts to stop rotating.

3. Lock-out, tag-out the controls.

4. Remove material from discharge and hopper area.

5. Reposition unit if discharge area plugs due to lack of clearance.
3.8 OPERATING HINTS:

- **Keep the hopper full for maximum capacity.** Most efficient results will be obtained when flow of incoming material is directed to the front (closer to the tube) of the hopper.

- **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.

- **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.

- **Do not support discharge end directly on the storage facility.**

- **Stake the hopper or weigh it down to prevent up ending.**

- **For better performance, use a transfer conveyor or drive over conveyor, to move product from the storage facility or truck to conveyor hopper.**

- **The hopper is designed with flashing to seal the junction of the belt with the sides of the hopper.** It must be kept in good condition to prevent the material from “leaking” out of the hopper. Replace flashing if “leakage” occurs.

- **Belt Speed:**
  The best results are obtained when the drive is set to provide a belt speed of 600 ft./min.

  Count the number of belt revolutions per unit time to determine belt speed. Use the connector splice as a reference when counting belt revolutions.

  Contact your dealer or the factory for the appropriate drive components to give the recommended belt speed.

- **Belt Tension:**
  There may be a rapid decrease in belt tension during the first few hours of operation until the belt has worn in.

  The correct operating tension is the lowest tension at which the belt will not slip under peak load conditions.

- **Operating Angle:**
  The hydraulic lift can set the tube angle at any position between 12° and 35° when operating. Because the belt does not have roll-back barriers, the product will roll-back if the angle is too steep. Do not position at more than 35°.

  **Note:**
  The lower the angle, the greater the capacity.
3.9 TRANSPORTATION

**Transporting Safety**

- Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when moving or transporting the conveyor.
- Check with local authorities regarding conveyor transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed. Use caution when making corners or meeting traffic.
- 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.
- 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.
- Do not allow riders on the conveyor when transporting.
- Close all hydraulic valves.
- Lower conveyor to its lowest position for transporting.
- Attach conveyor to towing vehicle with a pin and retainer. Always attach the safety chain.
- Do not exceed 20 mph (32 km/h). Reduce speed on rough roads and surfaces.
- Stay away from overhead obstructions and power lines when transporting. Electrocution can occur without direct contact.
- Always use hazard warning flashers on tractor when transporting unless prohibited by law.

Convey-All Conveyors are designed to be easily and conveniently transported over longer distances. When the job is complete and its time to transport the unit to a new location, follow this procedure:

1. Refer to Section 3.5 to attach conveyor to tow vehicle.

   **CAUTION:** Equipment Damage Likely
   Always disengage drive wheels before transport. Hydraulic motors will be damage if driven at highway speeds.

2. Ensure the conveyor unit is ready for transport:
   - It is in fully collapsed position.
   - Drive wheels are disengaged.
   - Hitch is attached using anchor pin, retainer and secured with the safety chain.

3. Close valve to hydraulic line.

4. Raise the jack and remove it from the anchor bracket. Store in its transport location.
5. Connect the wiring harness across the hitch. Secure with clips, zip ties or tape. Provide slack for turning.

6. Remove chocks from around conveyor wheels.

7. Ensure the SMV (Slow Moving Vehicle) emblem, all lights and reflectors required by local highway and transport authorities are in place. They must be clean and clearly visible by all overtaking and oncoming traffic.

8. Do not allow riders on the conveyor.

9. Slowly pull away from the working area. Be sure everything is connected and nothing is hanging.

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. Never travel across slopes of more than 20°. It is better to go straight up and down.

12. It is not recommended that the machine be transported faster than 32km/h (20mph).

<table>
<thead>
<tr>
<th>Road Speed</th>
<th>Weight of fully equipped or loaded implement(s) relative to weight of towing machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 32km/h (20mph)</td>
<td>1 to 1, or less</td>
</tr>
<tr>
<td>up to 16km/h (10mph)</td>
<td>2 to 1, or less</td>
</tr>
<tr>
<td>Do not tow</td>
<td>More than 2 to 1</td>
</tr>
</tbody>
</table>

Table 1 - Road Speed

13. During periods of limited visibility, use pilot vehicles or add extra lights to the machine.

14. Always use hazard flashers on the tractor when transporting unless prohibited by law.
3.10 STORAGE

Storage Safety

- Store the unit in an area away from human activity.
- If required, make sure the unit is solidly blocked up.
- Do not permit children to play on or around the stored machine.
- Make certain all mechanical locks are safely and positively connected before storing.
- Lower conveyor to its lowest position for storage unless supported by a storage facility.
- If required, make sure the unit is solidly blocked up.

After the season’s use, the conveyor should be thoroughly inspected and prepared for storage.

Repair or replace any worn or damaged components to prevent any unnecessary down time at the start of next season. To have a long, trouble free life, this procedure should be followed when preparing the unit for storage:

1. Remove all residual material from the hopper and the tube.
2. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove the entangled material.
3. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
4. Inspect all hydraulic hoses, fittings, lines, couplers and valves. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
5. Touch up all paint nicks and scratches to prevent rusting.
6. Select an area that is dry, level and free of debris.

Fig 45 - Collapsed Position
Section 4: SERVICE AND MAINTENANCE

Servicing Safety

- Review the Operator’s Manual and all safety items before working with, maintaining or operating the machine.
- Place all controls in neutral, stop engine, unplug the cord. 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 or disconnecting from tractor.
- 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.
- Place stands or blocks under frame before working beneath the unit.
- 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 signs clean. Replace any sign that is damaged or not clearly visible.

By following the operating instructions, in conjunction with a good maintenance program, your tube conveyor will provide many years of trouble free service.

4.1 FLUIDS AND LUBRICANTS

Fuel:
Use regular unleaded automotive gasoline for all operating conditions.

Engine Oil:
Use a typical SAE 10W30 or 10W40 multi viscosity motor oil for normal operating conditions. Consult your engine manual for recommended oil in cold temperatures.

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 Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.

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 grease.

   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.

4.2 SERVICING INTERVALS

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 loaded operation.

Check bearings for wear daily.

The periods recommended below are based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication and oil changes.

4.2.1 After 10 Hours or Daily:
1. Check fuel level. Add as required.

2. Check engine oil level. Add as required.

3. Check oil level in hydraulic reservoir. Add as required.

4. Clean air filter.

5. Grease counter shaft bearings.

7. Grease discharge roller bearings.

8. Grease drive box assembly bearings.

4.2.2 After 50 Hours or Weekly:
9. Check the conveyor belt tension.
   Refer to Section 4.3.1

   **Note:**
   A properly tensioned belt will not slip when in operation.
10. Check conveyor belt alignment.
    Refer to Section 4.3.2

11. Check drive belt tension.
    Refer to Section 4.3.4

12. Check pulley alignment.
    Refer to Section 4.3.5
13. Check the condition of the rubber hopper flashing. Be sure it still seals the hopper to prevent leaking. If it is stuck, manually peel the flashing up and off the hopper. Replace it if necessary.

14. Oil all hydraulic drive couplers.

4.2.3 After 200 hours or Annually:
15. Change engine oil and filter.
   a. Dipstick
   b. Fill Plug
   c. Oil Filter

17. Change air filter.

18. Change hydraulic system oil and filter.

19. Grease steering wheel axle bushings and cylinder.

20. Grease conveyor tube lift cylinder.

22. Check for tube straightness. Adjust eyebolts if required.

23. Repack wheel bearings.

24. Wash the machine
4.3 MAINTENANCE

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

**WARNING: Rotating Part Hazard**
Turn off engine. Lock out power and wait for belts to stop moving.

4.3.1 Conveyor Belt Tension

The tension of the belt should be checked weekly, or more often if required, to be sure that it does not slip. To maintain the belt, follow this procedure:

Use the drive box tension bolts to adjust the belt.

**Positive Pinch Drive:**

These conveyors have Positive Pinch Drive.

When loading on the belt gets heavier, the pinch roller tightens against the drive roller in proportion. This provides more torque.

Tighten the tension bolts completely.

When the conveyor belt is tensioned correctly, the arm at the end of the spring should sit vertical.

The arm should never be angled towards the tension bolt. This indicates the belt is too long. Measure the angle.

For example, if the belt angles towards the tension bolt by 2 inches (away from vertical):

- Cut the belt 4 inches shorter.
  (double the measurement)
- Re-lace it.
- Tension the belt again.

If the arm touches the far right edge, the belt is too short. Remove and replace with longer belt.
4.3.2 Conveyor Belt Alignment:
The belt is properly aligned when it rotates in the centre of the rollers on both ends and in the drive box housing. As with tensioning, the alignment should be checked weekly, or as required.

1. Rotate the conveyor belt a half revolution when the belt is new and check the position of the belt on the drive, discharge and hopper rollers.

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

2. Tighten or loosen the adjustment bolt by a 1/4 turn to 2 turns.

3. Run a couple of revolutions and check again.

4. Tighten the tension bolt lock nut.

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.
4.3.3 Conveyor Belt Replacement:

1. Rotate the conveyor belt until the Alligator Lacing is positioned under the tube, inside the wind guard, and is accessible.

2. Rotate the tension bolt in the drive box to its loosest position. See Figure 70

3. Pull all the slack to the lacing area.

4. Remove the lacing pin and open the belt.

5. Attach one end of the replacement belt to the end of the belt (to be removed) which is hanging closest to the hopper.

6. Pull the end of the old belt which is coming from the direction of the discharge spout. The new belt will follow and be threaded into place.

7. Disconnect the old belt.

8. Connect the ends of the new belt. Place the pin in the Alligator Lacing. Crimp the ends of the pin.

9. Set the belt tension. Refer to Section 4.3.1

10. Set the belt alignment. Refer to Section 4.3.2.
4.3.4 Drive Belt Tension:
To adjust the belt tension, follow these procedures:

![Warning: Rotating Part Hazard](image)

Turn off engine. Lock out power and wait for belts to stop moving.

First, set tension on “counter shaft to drive” belt.
1. Open the guard over the V-belt pulley.
2. Loosen counter shaft bearing mount anchor nuts and jam nuts.
3. Use bearing mount position bolts to set countershaft position and set belt tension.

   Calculate the tension (See Figure 82):
   • Measure the length of span between pulleys
   • Allow 1/64” of deflection per inch of span

4. Tighten bearing mount anchor nuts.
5. Tighten adjusting bolt(s) and lock nut(s).
6. Close and secure guard over pulleys.

Second, set tension on “engine to counter shaft” belt.
7. Open the guard over the V-belt pulley.
8. Loosen engine mount nuts and jam nuts.
9. Use engine mount nuts to set belt tension.

   Calculate the tension (See Figure 82):
   • Measure the length of span between pulleys
   • Allow 1/64” of deflection per inch of span

10. Tighten engine mount anchor nuts.
11. Tighten adjusting bolt(s) and lock nut(s).
12. Close and secure guard over pulleys.
4.3.5 Check Pulley Alignment:
1. Lay a straight edge across both drive and driven pulleys to check alignment.
2. Use the tapered lock hub in the center of the pulley to adjust the position of a pulley if required.
3. Move a pulley to align if there is more than a 1/32 inch gap between the edge of the pulley and the straight edge.

4.3.6 Drive Belt Replacement:
1. Place drive system into its loosest position.
2. Remove old belt.
3. Install replacement belt.
4. Set belt tension. Refer to Section 4.3.4
5. Check pulley alignment. Refer to Section 4.3.5

<table>
<thead>
<tr>
<th>Cross Section</th>
<th>Smallest Sheave Diameter Range</th>
<th>RPM Range</th>
<th>Uncogged Hy-T® Belts and Uncogged Hy-T® Torque Team® Belts</th>
<th>Cogged Torque Flex® and Machined Edge Torque Team® Belts</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, AX</td>
<td>3.0 - 3.6</td>
<td>1000-2500</td>
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<td>851-1500</td>
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<td>24.9 37.0 30.4 45.2 21.2 31.3 n/a n/a</td>
<td>851-1500</td>
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</table>

Table 2 - Belt Deflection Force
4.3.7 Change Engine Oil and Filter

1. Review the Operator’s Manual for the engine.

WARNING: Rotating Part Hazard
Turn off engine. Lock out power and wait for belts to stop moving.

DANGER: Hot Components
Allow the engine to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin.

Note:
It is best to change oil while engine is warm to keep contaminants in suspension.

2. Place a pan under the drain plug.

3. Remove the drain and allow the oil to drain for 10 minutes.

4. Install and tighten the drain plug.

5. Remove engine oil filter.

6. Dispose of the used oil in approved container.

7. Apply light coat of oil to the O-ring of new filter and install. Snug up by hand, then tighten another half turn.

8. Fill crankcase with specified oil.

9. Run the engine for 1-2 minutes and check for oil leaks.

10. If leaks are found, tighten drain plug slightly.

11. Check engine oil level. Top up as required.
4.3.8 Change In-Line Fuel Filter:
1. Review the Operator’s Manual for the engine.

![Warning: Rotating Part Hazard](image)

**WARNING:** Rotating Part Hazard
Turn off engine. Lock out power and wait for belts to stop moving.

![Warning: Hot Components](image)

**DANGER:** Hot Components
Allow the engine to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin.

2. Place a pan under the filter to catch any spilled fuel.
3. Clamp off the line on each side of the filter to prevent the loss of any fuel.
4. Loosen the hose clamps on either side of the fuel filter.
5. Remove old fuel filter.
6. Install new filter and tighten hose clamps to their specified torque.
7. Remove catch pan and dispose of any spilled fuel in an environmentally safe manner.
8. Start engine and run for 1 to 2 minutes to check for leaks at the fuel filter. Re-tighten hose clamps if any leakage occurs.

4.3.9 Clean/Change Air Filter
1. Remove cover over the air filter.
2. Remove the foam from the engine.
3. Use an air hose to blow the dust and debris out of the foam.
4. Reinstall or replace foam and secure the cover.
4.3.10 Change Hydraulic System Oil and Filter:

1. Review the Operator’s Manual for the engine.

   ! WARNING: Rotating Part Hazard
   Turn off engine. Lock out power and wait for belts to stop moving.

   ! DANGER: Hot Components
   Allow the engine to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin.

2. Place a large pan, pail or tank under the drain plug.

3. Remove the drain and allow the oil to drain for 10 minutes.

4. Install and tighten the drain plug.

5. Dispose of the used oil in an approved container and manner.

6. Place a pan under the filter to catch any spilled oil.

7. Remove hydraulic oil filter.

8. Apply a light coat of oil to the O-ring and install the replacement filter. Snug up by hand and then tighten another 1/2 turn.

9. Fill the reservoir with specified oil.

10. Run the engine for 1-2 minutes and check for oil leaks.

11. If leaks are found around the drain plug or filter, tighten slightly. Repeat step 8.

12. Check oil level. Top up as required.
4.4 SERVICE RECORD

See Section 4.3 for details of service. The Servicing Intervals section is only a guide under good conditions. Under extreme, or unusual circumstances adjust service timing accordingly.
For more detailed schedule pertaining to specific engine model, consult its Operator Manual.

Copy this page to continue record.

<table>
<thead>
<tr>
<th>Maintenance</th>
<th>Hours</th>
<th>Serviced By</th>
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</thead>
</table>

### 10 Hours or Daily
- Check Fuel Level
- Check Engine Oil Level
- Check Hydraulic Oil Level
- Clean Air Filter
- Grease Counter Shaft Bearings
- Grease Hopper and Transition Roller Bearings
- Grease Discharge Roller Bearings
- Grease Drive Box Bearings

### 50 Hours, or Weekly
- Check Conveyor Belt Tension
- Check Conveyor Belt Alignment
- Check Drive Belt Tension
- Check Pulley Alignment
- Check Hopper Flashing
- Oil All Hydraulic Drive Coupler

### 200 Hours or Annually
- Change Engine Oil and Filter
- Change In-Line Fuel Filter
- Change Air Filter
- Change Hydraulic System Oil and Filter
- Grease Steering Wheel Axel Bushings
- Grease Conveyor Tube Lift Cylinders
- Grease Steering Wheel Lift Cylinders
- Check Tube Straightness
- Repack Wheel Bearings
- Wash Machine
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.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Possible Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine won’t start</td>
<td>Low battery</td>
<td>Recharge or replace</td>
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<tr>
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<td>No fuel</td>
<td>Refuel</td>
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<tr>
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<td>Cold engine</td>
<td>Open choke</td>
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<tr>
<td></td>
<td>Air filter dirty</td>
<td>Clean or replace the air filter</td>
</tr>
</tbody>
</table>

The engine blogs down

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Possible Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not enough power</td>
<td>Open the gate to unload more product. This allows the governor to torque and engage.</td>
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</table>

Conveyor belt doesn’t turn or is slipping

<table>
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<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Possible Remedy</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Hopper flashing may be stuck to belt, because it is running dry and rubber is heating up</td>
<td>Turn off unit! Manually peel flashing up and off hopper. Then run dry product through to create barrier between flashing and belt</td>
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<td>Conveyor belt loose</td>
<td>Tighten and align</td>
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<td>Conveyor belt loose because it has stretched</td>
<td>Shorten belt</td>
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<td>Conveyor belt frozen to tube from operating in high humidity conditions in extreme cold</td>
<td>Remove conveyor from area of high humidity and continue to run empty so the belt dries prior to freezing</td>
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<td>Drive belt loose</td>
<td>Tighten drive belt</td>
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<td>No power</td>
<td>Start engine, increase speed to maximum RPM</td>
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<td>Drive roller slipping</td>
<td>Tension or replace V-belt</td>
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<td>Seized bearing</td>
<td>Check all bearings, Replace any that are rough or seized</td>
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<td>Conveyor belt or roller is jammed</td>
<td>Check for sticks, stones, other objects jammed in belt drive area and remove</td>
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<tr>
<td>Problem - cont’d</td>
<td>Possible Cause</td>
<td>Possible Remedy</td>
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<td>Conveyor belt won’t align</td>
<td>Roller lagging may be worn</td>
<td>Replace roller or have it re-lagged</td>
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<tr>
<td>Conveyor belt fraying</td>
<td>Belt not aligned</td>
<td>Align and adjust tension</td>
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<tr>
<td>Product leakage</td>
<td>Product may be getting under the belt at the hopper, travelling up inside the belt and leaking off delivery end</td>
<td>Replace hopper flashing</td>
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<td>Low capacity</td>
<td>Conveyor belt not tight enough</td>
<td>Tighten conveyor belt</td>
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<td>Conveyor belt not pinched enough</td>
<td>Inside drive box there is a drive roller and pinch roller. Be sure the belt is snug between both rollers</td>
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<td>Drive roller is slipping or is worn out</td>
<td>Tighten or replace V-belt</td>
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<td>Conveyor angle exceeds 30 degrees</td>
<td>Reposition with a lower tube slope</td>
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<td>No hydraulic flow</td>
<td>Hydraulic valve closed or plugged</td>
<td>Open hydraulic valve</td>
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<td>Clean or replace hydraulic valve</td>
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<td>Drive wheels don’t work</td>
<td>Wheels may not be engaged</td>
<td>Remove retainer clip and engage drive mechanism</td>
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<td>Steering axle keeps sinking to the ground</td>
<td>Leak in check valve or cylinder</td>
<td>Replace cartridge in check valve, or replace seals in cylinder</td>
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</tbody>
</table>
Convey-All follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE), and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the tube conveyor must read and clearly understand ALL Safety, Operating and Maintenance Information presented in this manual.

Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to operate this machine.

The following Sign-Off Form is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator’s Manual and have been instructed in the operation of the equipment. Copy this page to continue record.

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</table>
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

<table>
<thead>
<tr>
<th>Model</th>
<th>Type of Under-Carriage</th>
<th>Tube Diameter</th>
<th>Belt Width</th>
<th>Axle Width</th>
<th>Transport Height</th>
<th>Transport Length</th>
</tr>
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<tbody>
<tr>
<td>TCH-1070-MK2</td>
<td>Scissor Lift</td>
<td>10&quot;</td>
<td>16&quot;</td>
<td>11' 4&quot;</td>
<td>11' 10&quot;</td>
<td>75' 11&quot;</td>
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<td>TCH-1075-MK2</td>
<td>Scissor Lift</td>
<td>10&quot;</td>
<td>16&quot;</td>
<td>12' 6&quot;</td>
<td>12' 5&quot;</td>
<td>80' 11&quot;</td>
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<td>TCH-1080-MK2</td>
<td>Scissor Lift</td>
<td>10&quot;</td>
<td>16&quot;</td>
<td>12' 6&quot;</td>
<td>11' 2&quot;</td>
<td>86' 1&quot;</td>
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<td>TCH-1085-MK2</td>
<td>Scissor Lift</td>
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<td>16&quot;</td>
<td>12' 6&quot;</td>
<td>11' 7&quot;</td>
<td>91' 1&quot;</td>
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<td>TCH-1090-MK2</td>
<td>Scissor Lift</td>
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<td>16&quot;</td>
<td>12' 6&quot;</td>
<td>12' 2&quot;</td>
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<td>TCH-1095-MK2</td>
<td>Scissor Lift</td>
<td>10&quot;</td>
<td>16&quot;</td>
<td>12' 6&quot;</td>
<td>12' 8&quot;</td>
<td>100' 9&quot;</td>
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<td>TCSNH-1075-MK2</td>
<td>Scissor Lift</td>
<td>10&quot;</td>
<td>16&quot;</td>
<td>12' 6&quot;</td>
<td>12' 8&quot;</td>
<td>100' 9&quot;</td>
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Specifications subject to change without notice.

7.2 WORKING MEASUREMENTS

<table>
<thead>
<tr>
<th>Model</th>
<th>15° Height</th>
<th>15° Length</th>
<th>20° Height</th>
<th>20° Length</th>
<th>25° Height</th>
<th>25° Length</th>
<th>30° Height</th>
<th>30° Length</th>
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</thead>
<tbody>
<tr>
<td>TCH-1070-MK2</td>
<td>17' 4&quot;</td>
<td>69' 8&quot;</td>
<td>23' 6&quot;</td>
<td>68' 1&quot;</td>
<td>39' 6&quot;</td>
<td>66' 1&quot;</td>
<td>35' 3&quot;</td>
<td>63' 6&quot;</td>
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<tr>
<td>TCH-1075-MK2</td>
<td>18' 7&quot;</td>
<td>74' 6&quot;</td>
<td>25' 2&quot;</td>
<td>72' 10&quot;</td>
<td>31' 7&quot;</td>
<td>70' 7&quot;</td>
<td>37' 9&quot;</td>
<td>67' 10&quot;</td>
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<tr>
<td>TCH-1080-MK2</td>
<td>19' 11&quot;</td>
<td>79' 4&quot;</td>
<td>26' 11&quot;</td>
<td>77' 6&quot;</td>
<td>33' 8&quot;</td>
<td>75' 1&quot;</td>
<td>40' 3&quot;</td>
<td>72' 2&quot;</td>
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<tr>
<td>TCH-1085-MK2</td>
<td>21' 2&quot;</td>
<td>84' 2&quot;</td>
<td>28' 7&quot;</td>
<td>82' 3&quot;</td>
<td>35' 10&quot;</td>
<td>79' 8&quot;</td>
<td>42' 9&quot;</td>
<td>76' 6&quot;</td>
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<tr>
<td>TCH-1090-MK2</td>
<td>22' 6&quot;</td>
<td>89&quot;</td>
<td>30' 4&quot;</td>
<td>86' 11&quot;</td>
<td>37' 11&quot;</td>
<td>84' 2&quot;</td>
<td>45' 3&quot;</td>
<td>80' 10&quot;</td>
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<tr>
<td>TCH-1095-MK2</td>
<td>24' 1&quot;</td>
<td>93' 8&quot;</td>
<td>32' 4&quot;</td>
<td>91' 5&quot;</td>
<td>40' 4&quot;</td>
<td>88' 6&quot;</td>
<td>48&quot;</td>
<td>84' 10&quot;</td>
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<td>73' 6&quot;</td>
<td>25' 7&quot;</td>
<td>71' 9&quot;</td>
<td>31' 11&quot;</td>
<td>69' 5&quot;</td>
<td>37' 11&quot;</td>
<td>66' 7&quot;</td>
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Measurements subject to change without notice.
7.3 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.

<table>
<thead>
<tr>
<th>Bolt Diameter “A”</th>
<th>ENGLISH TORQUE SPECIFICATIONS</th>
<th>METRIC TORQUE SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAE 2 (N.m) (lb-ft)</td>
<td>SAE 5 (N.m) (lb-ft)</td>
</tr>
<tr>
<td>1/4”</td>
<td>8 6</td>
<td>12 9</td>
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<tr>
<td>5/16”</td>
<td>13 10</td>
<td>25 19</td>
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<tr>
<td>3/8”</td>
<td>27 20</td>
<td>45 33</td>
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<tr>
<td>7/16”</td>
<td>41 30</td>
<td>72 53</td>
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<tr>
<td>1/2”</td>
<td>61 45</td>
<td>110 80</td>
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<tr>
<td>9/16”</td>
<td>95 60</td>
<td>155 115</td>
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<tr>
<td>5/8”</td>
<td>128 95</td>
<td>215 160</td>
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<tr>
<td>3/4”</td>
<td>225 165</td>
<td>390 290</td>
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<tr>
<td>7/8”</td>
<td>230 170</td>
<td>570 420</td>
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<tr>
<td>1”</td>
<td>345 225</td>
<td>850 630</td>
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Table 5 - English Torque

Table 6 - Metric Torque

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.