

CONVEY-ALL™



SELF-PROPELLED CONVEYOR

Models:

1685-SP, 1690-SP, 1695-SP

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.
130 Canada Street
Winkler, Manitoba R6W 0J3
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
and INSPECTION REPORT**

CONVEY-ALL™

CONVEY-ALL INDUSTRIES INC.
130 CANADA STREET, WINKLER, MANITOBA R6W 0J3
T: (800) 418-9461 P: (204) 325-4195 F: (204) 325-8116
www.convey-all.com conveyors@convey-all.com

The Dealer must fill out this form. It is to be signed by both the Dealer and Buyer at the time of delivery. Scan or photograph the completed form (be sure it is legible). Email it to: register@convey-all.com
A copy of this form may also be mailed to Convey-All Industries Inc, at the above address.

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 _____	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
- Engine/Hydraulic Fluid Levels Checked
- Hydraulic Hoses Good, Fittings Tight
- Machine and All Bearings Lubricated
- Conveyor Belt Aligned and Tensioned
- Conveyor Belt Moves Freely
- Conveyor Tube Raises and Lowers Smoothly
- Unit Steers and Drives Smoothly
- Tire Pressure Checked

SAFETY INSPECTION

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

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

Date _____ Dealer's Signature _____

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

Date _____ Buyer's Signature _____

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TABLE OF CONTENTS

DESCRIPTION	PAGE
Section 1: INTRODUCTION	1-1
1.1 Operator Orientation	1-1
1.2 Serial Number Location	1-1
Section 2: SAFETY	2-1
2.1 Safety Orientation	2-2
2.2 General Safety	2-2
2.3 Equipment Safety Guidelines	2-3
2.4 Safety Decals	2-3
2.4.1 How to Install Safety Decals	2-3
2.5 Work Preparation	2-4
2.6 Placement Safety	2-4
2.7 Lock-Out Tag-Out Safety	2-4
2.8 Maintenance Safety	2-5
2.9 Tire Safety	2-5
2.10 Battery Safety	2-5
2.11 Engine Safety	2-6
2.12 Operating Safety	2-7
2.13 Hydraulic Safety	2-7
2.14 Workplace Hazard Area	2-8
2.15 Transport Safety	2-9
2.16 Storage Safety	2-9
2.17 Safety Decal Location	2-10
Section 3: OPERATION	3-1
3.1 Machine Components	3-2
3.2 Components and Controls	3-4
3.3 - 10 inch Swing-Out Conveyor (Optional)	3-10
3.4 Swing-Out Remote Control (Optional)	3-13
3.5 Machine Break-In	3-15
3.6 Pre-Operation Checklist	3-15
3.7 Attaching to Tow Vehicle	3-16
3.8 Conveyor Placement	3-17
3.9 Operating on Site	3-19
3.9.1 Starting Conveyor	3-19
3.9.2 Stopping Conveyor	3-19
3.9.3 Emergency Stopping	3-19
3.9.4 Restarting after Emergency Stop	3-19
3.9.5 Unplugging	3-19
3.10 Operating Hints	3-20
3.11 Transportation	3-21
3.12 Storage	3-22

continued on next page

TABLE OF CONTENTS

DESCRIPTION	PAGE
Section 4: SERVICE AND MAINTENANCE	4-1
4.1 Fluids and Lubricants	4-1
4.1.1 Greasing	4-2
4.2 Servicing Intervals	4-3
4.2.1 Every 10 Hours or Daily	4-3
4.2.2 Every 50 Hours or Weekly	4-5
4.2.3 Every 200 Hours or Annually	4-6
4.3 Maintenance Procedures	4-8
4.3.1 Main Conveyor Belt Tension	4-8
4.3.2 Swing-Out Conveyor Belt Tension	4-9
4.3.3 Main Conveyor Belt Alignment	4-10
4.3.4 Swing-Out Conveyor Belt Alignment	4-12
4.3.5 Conveyor Belt Replacement	4-13
4.3.6 Changing Hydraulic Oil and Filter	4-14
4.4 Service Record	4-15
4.5 Ordering Parts	4-16
Section 5: TROUBLESHOOTING	5-1
Section 6: SIGN-OFF FORM	6-1
Section 7: REFERENCE	7-1
7.1 Specifications	7-1
7.2 Working Measurements	7-2
7.3 Bolt Torque	7-3

Section 1: INTRODUCTION

Congratulations on your choice of a Convey-All™ Self-Propelled Conveyor. It is designed to efficiently move grain, pulse crops or granular material between a truck, trailer, and storage facility.

This equipment has been designed and manufactured to exceed the exacting standards for such equipment in the agricultural industry. It will keep your seed delivery operation working at optimum efficiency.

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

Information provided herein is of a descriptive nature. Convey-All Industries Inc. reserves the right to modify the machinery design and specifications provided herein without any preliminary notice.

Performance quality may depend on the material being handled, weather conditions and other factors.

1.1 OPERATOR ORIENTATION

The directions left, right, front and rear, as mentioned throughout this manual, are as seen from the tow vehicle drivers' seat and facing the direction of travel. The hopper is the front of the conveyor.

1.2 SERIAL NUMBER LOCATION

Always give your dealer the serial number of your conveyor when ordering parts or requesting service or other information. The conveyor's serial number is located at the hopper of the main conveyor.

Please mark the identifying numbers in the space provided for easy reference.

Conveyor Model No: _____

Conveyor Serial No: _____

Engine Model No: _____

Engine Serial No: _____

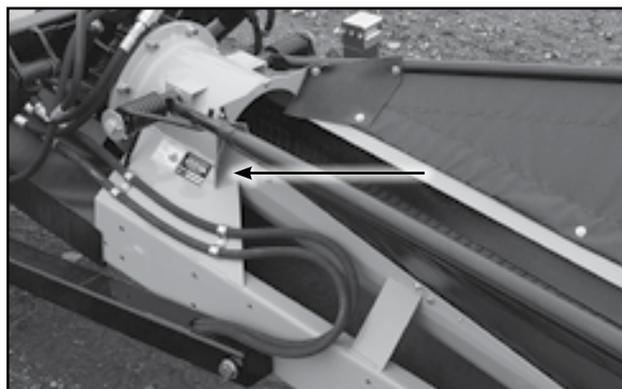


Fig 1 - Serial number location

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Section 2: SAFETY



The following signal words are used in this manual to express the degree of hazard for areas of personal safety.

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

- DANGER** - Indicates an imminently hazardous situation. If not avoided, it 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. If not avoided, it could result in death or serious injury. This word identifies hazards that are exposed when guards are removed. It may be used to alert against unsafe practices.
- CAUTION** - Indicates a potentially hazardous situation. If not avoided, it 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™ Self-Propelled Conveyor. Be sure that everyone who will operate, maintain or work around it, is familiar with the safety, operating and maintenance procedures.

This manual will take you step-by-step through your working day. It will alert you to all the safe 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 workday. Be certain that all operators of this equipment follows these procedures.

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.

Procedures must be reviewed annually thereafter, as 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 understand all safety and operating instructions in this document, and to follow them.
- An untrained operator exposes himself and bystanders to possible serious injury or death.
- Think SAFETY! Work SAFELY!

2.2 GENERAL SAFETY

- Read and understand the Operator's Manual and all safety decals before operating, maintaining, adjusting or unplugging the conveyor.



- Only trained, competent persons shall operate the conveyor. An untrained person 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.

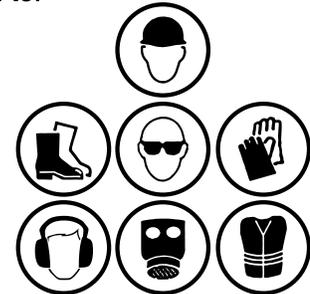


- Do not allow riders.

- Do not allow children, spectators or bystanders within hazard area around the machine.

- Wear appropriate protective gear. This list may include but is not limited to:

- Hard hat
- Protective shoes with slip resistant soles
- Eye protection
- Work gloves
- Hearing protection
- Respirator or filter mask
- Hi-Visibility safety vest



- 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.

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

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

2.3 EQUIPMENT SAFETY GUIDELINES

- 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.
- Do not allow personnel to operate this unit until they have read this manual. They should have a thorough understanding of the safety precautions.

Review the safety instructions with all personnel annually.

- In order to provide a better view, some images 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.

- This equipment is dangerous to children and people unfamiliar with its operation.

You, the operator must be responsible, properly trained and physically able. You should be familiar with farm machinery in general.

- 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.
- The design and configuration of this conveyor includes safety decals and equipment. They need to be clean, readable or in good, working condition.

2.4 SAFETY DECALS

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible.
- Replaced parts that displayed a safety decal should also display the current decal.
- All safety decals have a part number in the lower right hand corner. Use this part number when ordering replacements.
- Safety decals are available from your authorized distributor, dealer or directly from Convey-All Industries Inc.

2.4.1 How to Install Safety Decals:

1. Be sure that the area is clean and dry. Preferably, apply the decals inside.
2. Ensure temperature is above 10°C (50°F).
3. Remove all dirt, grease, wax from the surface.
4. Clean with a non-ammonia based cleaner.
5. Wipe the clean surface with isopropyl alcohol on paper towel, and allow to dry.
6. Determine exact position before you remove the backing paper.
7. Peel the smallest portion of the split backing paper.
8. Align the decal over the specified area. Use a squeegee to carefully press the small portion, with the exposed adhesive backing, into place.
9. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal into place.
10. Small air pockets can be pierced with a pin and smoothed out using the squeegee, or a piece of sign backing paper.

2.5 WORK PREPARATION

- Never operate the conveyor until you have read this manual, and comprehend the information.

Also, read the engine operator's manual.

Be familiar with the safety messages found on the decals around this unit.

- Personal protection equipment including:

- Hard hat
- Eye protection
- Protective shoes
- Work gloves

are recommended during placement, operation, maintaining and repairing, transportation and storage of the equipment.



- 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 you wear hearing protection on a full-time basis, if the noise 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 the working area of stones, branches or hidden obstacles that might be hooked, snagged or tripped over, 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 guards and safety decals are properly installed and in good condition.
- Before starting, inspect the unit for any loose bolts, worn parts, cracks, leaks or frayed belt.

Make the necessary repairs.

Always follow the maintenance instructions.

2.6 PLACEMENT SAFETY

- Stay away from overhead power lines when operating or moving the conveyor. Electrocutation can occur without direct contact.
- Keep conveyor as low as possible.
- Chock conveyor wheels before operating.
- Position conveyor providing enough space for trucks to unload.
- Operate the conveyor on level ground free of debris.

2.7 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 area.
- Provide tags on the machine and a sign-up sheet to record tag out details.

2.8 MAINTENANCE SAFETY

- Review Section 4: Service and Maintenance, of this Manual before maintaining or operating the conveyor.
 - 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.
 - Place all controls in neutral or off. Stop the engine and remove ignition key. Wait for all moving parts to stop before servicing, adjusting or repairing.
 - Relieve pressure from hydraulic circuit before servicing.
 - Before applying pressure to a hydraulic system, make sure all components are tight. The hoses and couplings must be in good condition.
 - Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
 - 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 the use of unapproved parts and/or accessories.
- 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.
 - Place stands or blocks under the frame before working beneath the machine.
 - Before resuming operation, install and secure all guards when maintenance work is completed.
 - Keep safety decals clean. Replace any decal that is damaged or not clearly visible.



2.9 TIRE SAFETY

- Failure to follow procedure when mounting a tire on a wheel or rim can produce an explosion and may result in serious injury or death.
 - Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
 - Have a qualified tire dealer or repair service perform required tire maintenance.
 - When replacing worn tires, make sure they meet the original tire specifications.
- Never undersize.
- Reference the tire side wall for information on the maximum cold tire pressure (PSI). Keep the tires inflated to this setting.



2.10 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.
- When storing the conveyor for an extended period:
 - Remove the battery
 - Be sure it is fully charged
 - Store it inside
 - Do not sit the battery on a cold, concrete floor
- Before using the battery, after it has been in storage, be sure it is fully charged.



2.11 ENGINE SAFETY

- Read and understand the operating manual provided with the engine. 
- Use proper tools to service engine.
- Do not run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.
- Store fuel in approved safety containers.
- Do not store fuel near an open flame.  Appliances such as a stove, furnace, or water heater use a pilot light which can create a spark.
- No smoking when filling the fuel tank. 
- Do not remove fuel cap while engine is running.
- Do not refuel indoors where area is not well ventilated. Outdoor refueling is preferred.
- Do not refuel while engine is running. Allow engine to cool for 5 minutes before proceeding.
- Use fresh fuel. Stale fuel can gum carburetor and cause leakage.
- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.
- Do not operate engine if fuel has spilled. Move machine away. Avoid creating any ignition until the fuel has evaporated.
- Do not run engine above rated speeds. This may result in damage and injury.
- Do not tamper with the engine speed selected by the original equipment manufacturer.
- Do not tamper with governor springs, governor links or other parts which may increase the governed engine speed.
- Do not strike flywheel with a hard object or metal tool. This may cause it to shatter in operation.

- Keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.
- Do not operate engine with grass, leaves, dirt or other combustible materials in muffler area.
- Do not operate engine without muffler.

**WARNING: Hot Equipment**

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

- 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.

- Inspect muffler periodically. Replace if necessary.

If engine is equipped with a muffler deflector, inspect periodically. Replace with correct part.
- Do not check for spark, or crank the engine while the spark plug or spark plug wire is removed.
- Do not run the engine with air filter or it's cover removed.

NOTICE: Possible Engine Damage

Decelerate engine slowly to stop. Avoid choking the carburetor to stop engine. Choke only for an emergency stop.

2.12 OPERATING SAFETY

- Be sure that anyone who will be operating the conveyor, or working around the unit, reads the manual. They must know the operating, maintenance and safety information. 

Review the manual annually.

- Clean or replace all safety decals if they cannot be clearly read and understood.
- Place all controls in neutral, and stop the engine. Remove the ignition key. Wait for all moving parts to stop before adjusting, repairing or unplugging.
- Keep all bystanders, especially children, away from the machine when running.

Also, keep away when authorized personnel are carrying out maintenance work.

- Establish a Lock-Out, Tag-Out policy for the work site. Be sure all personnel are trained in and follow all procedures.

Lock-out and tag-out all power sources before servicing the unit or working around equipment.

- 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 moving or 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.

- Chock wheels of conveyor before starting.
- Be sure that conveyor tube is empty before raising or lowering.
- Close valves in hydraulic line when machine is in position or before transporting.
- High winds may overturn conveyor. To avoid damage to structures and equipment, do not raise conveyor fully in windy conditions.

Also, do not leave the conveyor raised, when it is not in use.

2.13 HYDRAULIC SAFETY

- Always place all hydraulic controls in neutral before disconnecting and working on hydraulic systems.
- 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. 

- Relieve pressure in hydraulic system before maintaining or working on machine.

2.14 WORKPLACE HAZARD AREA

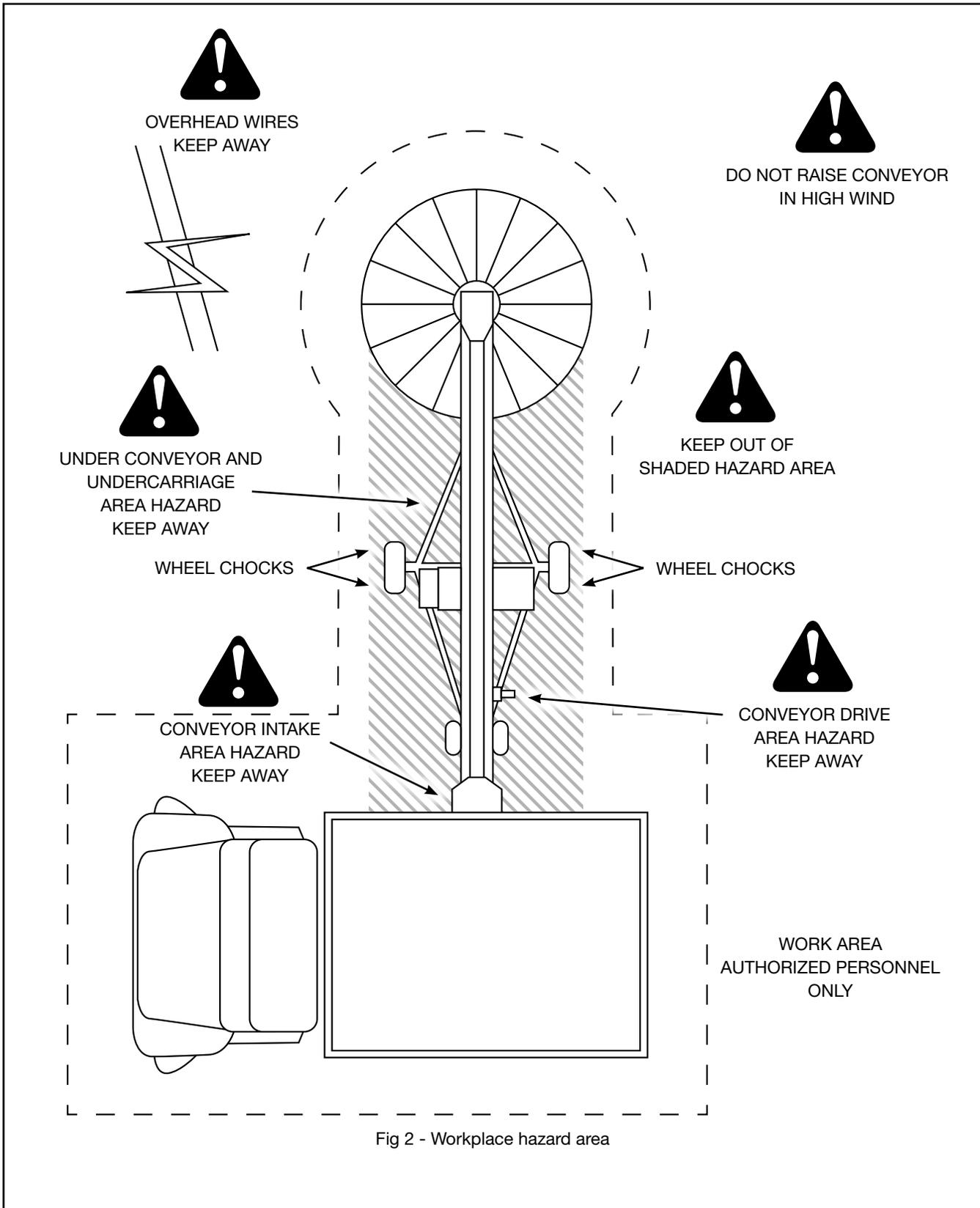


Fig 2 - Workplace hazard area

2.15 TRANSPORT SAFETY

- The conveyor belt must be empty before raising or lowering it.
- Always transport conveyor in collapsed position.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition. 
- Never allow riders on the conveyor.
- 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.

2.16 STORAGE SAFETY

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

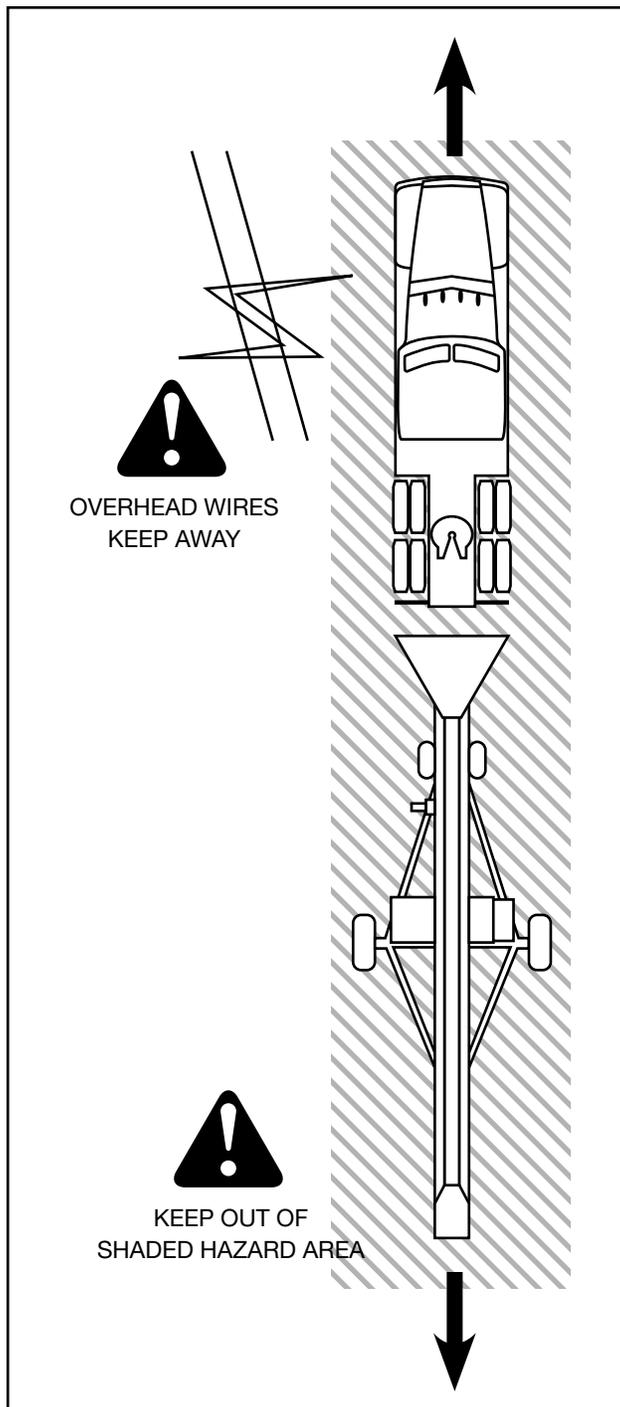


Fig 3 - Transporting hazard area

2.17 SAFETY DECAL LOCATION

The following illustrations show the general location of decals on this conveyor. The position of decals may vary depending on the machine's options. Decals are not shown at actual size.

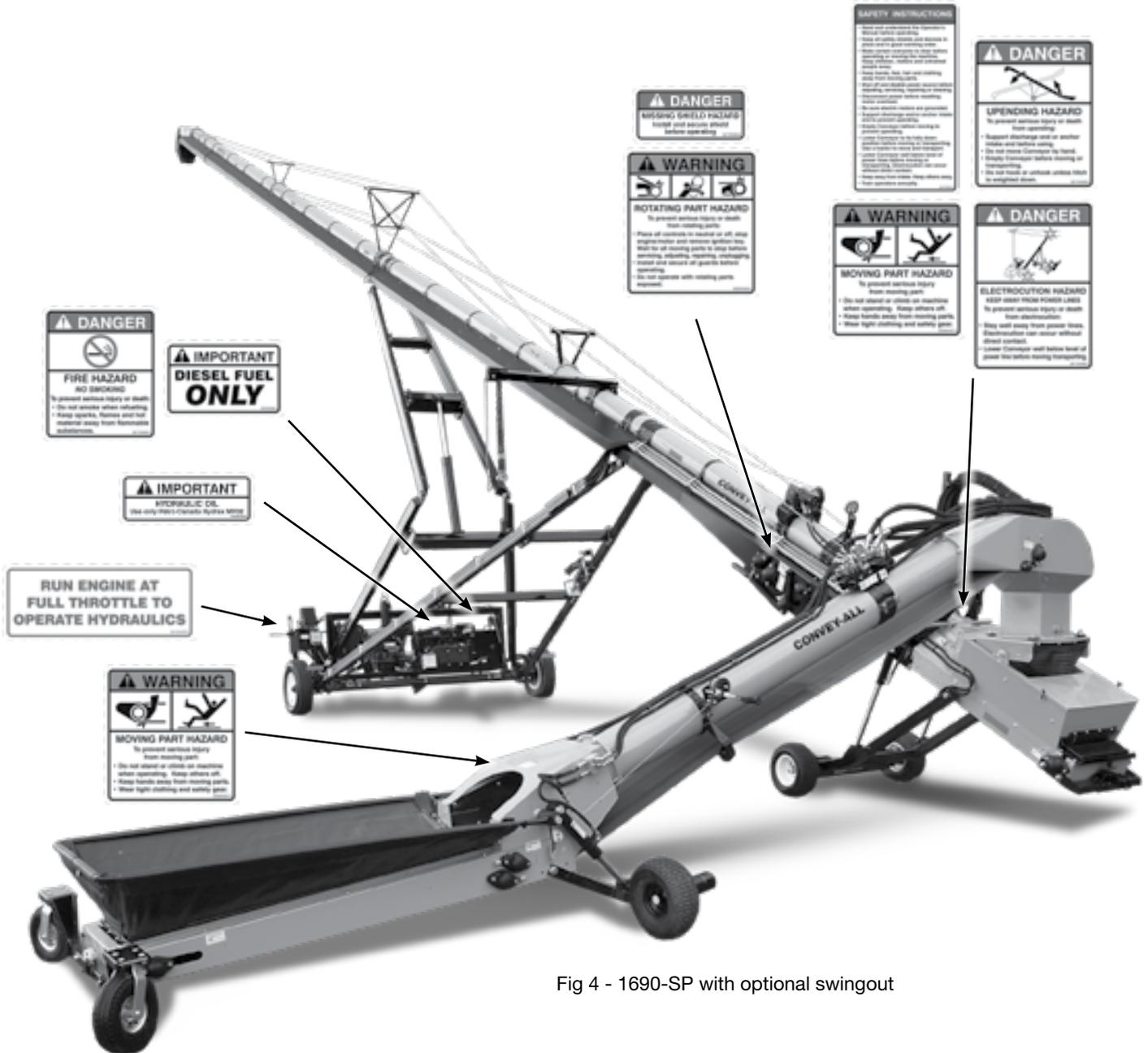


Fig 4 - 1690-SP with optional swingout

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

Section 3: OPERATION



Operating Safety

- Read and understand the Operator's Manual. Be familiar with all safety decals, before using.
- Place all controls in neutral. Stop the engine and 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.
- 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 transporting.
- 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 conveyor before starting.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Establish Lock-Out Tag-Out policy for the work site. Be sure all personnel are trained in and follow all procedures.
- Lower conveyor to collapsed position for transporting.

The Convey-All™ Self-Propelled Conveyor is designed to efficiently move granular material between a truck and trailer and storage facility. Power is provided by a diesel engine. Be familiar with the conveyor and engine before starting.

It is the responsibility of the owner, and operators to become familiar with the operating procedures in this section. Follow the instructions safely. It is everyone's business to provide a safe working environment for their co-workers.

The design and configuration of this conveyor includes safety decals and equipment. Hazard controls and accident prevention depend on the personnel operating and maintaining the equipment. Their concern, attentiveness 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 for instructions on how to set it, to provide maximum efficiency.

By following these procedures, in conjunction with a good maintenance program, your Self-Propelled Conveyor will provide many years of trouble free service.

3.1 MACHINE COMPONENTS

A diesel engine supplies power to the hydraulics making this conveyor a self-contained, self-propelled unit.

A hydraulic motor runs the conveyor belt.

Hydraulic cylinders are used to raise or lower the hopper and frame.

Components may vary, and their positions may change depending on the options contained in the present unit.

The main components, and their general location are listed below:

- a. Conveyor Tube
- b. Standard Hopper
- c. Discharge Spout
- d. Engine
- e. Engine, Electrical and Hydraulic Controls
- f. Drive Box
- g. Hydraulic Motor
- h. Hydraulic Reservoir and Fuel Tank
- i. Axle and Drive Wheels
- j. Mover Kit Steering Wheel
- k. Working Lights
- l. Hitch
- m. Jack Mount
- n. Hitch and Jack Storage Plate
- o. Document Holder
- p. Swing-Out (Optional)
- q. Swing-Out Hopper Winch

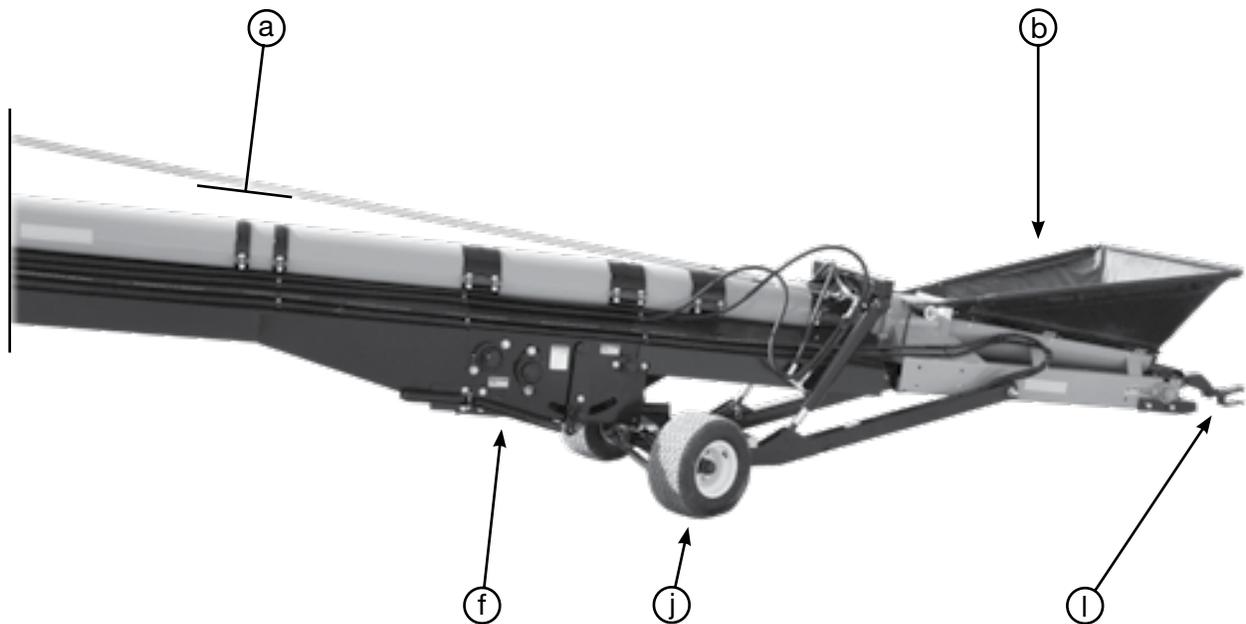


Fig 5 - Hopper end of conveyor

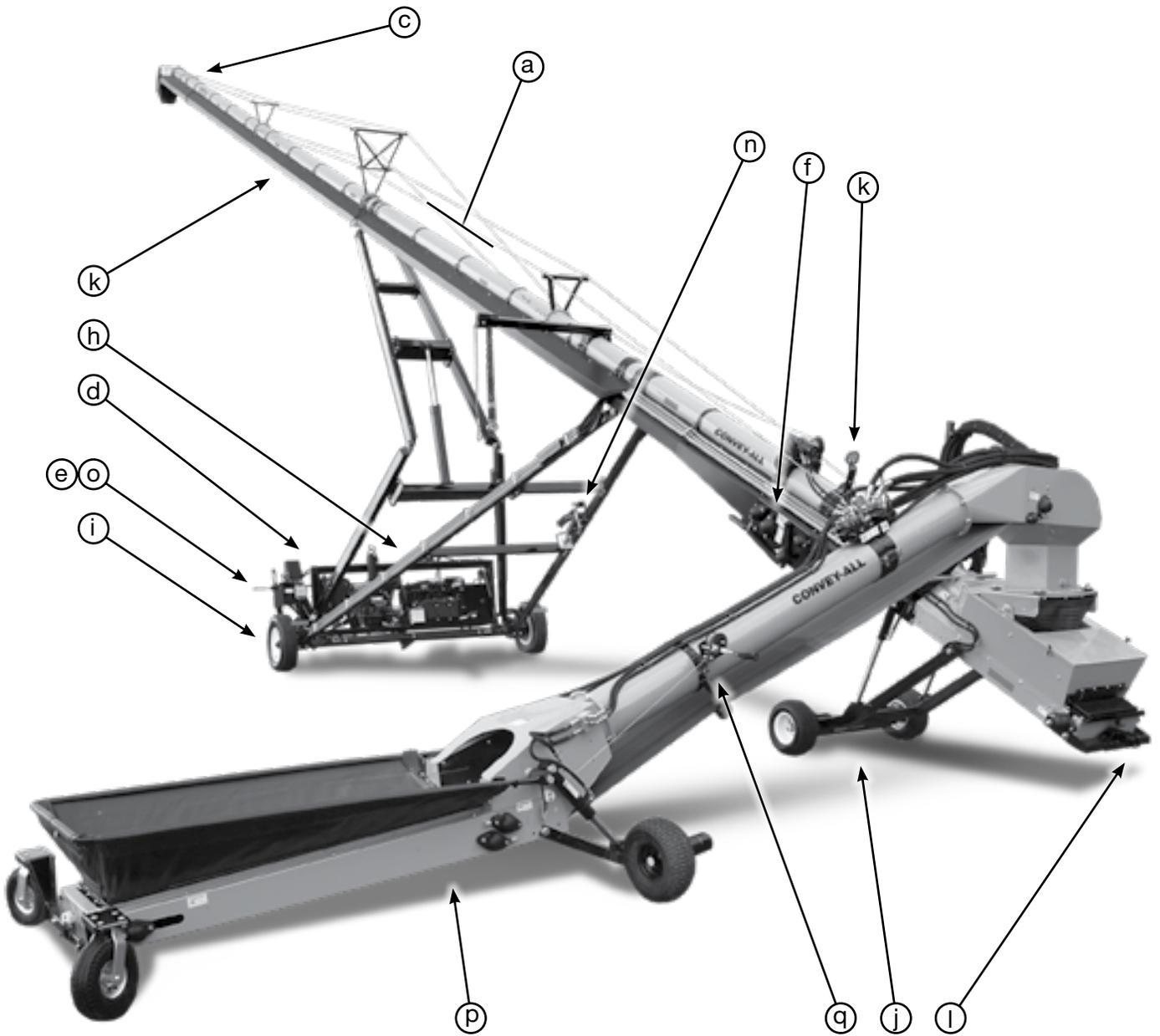


Fig 6 - Conveyor with optional swing-out

3.2 COMPONENTS AND CONTROLS

Before starting to work, all operators must familiarize themselves with the location and function of the components and controls of their specific unit.

Options and locations may change without notice.

Refer to the engine manufacturer's manual for more detailed information.

Engine controls may vary depending on the model.

Diesel Engine:

The ignition switch is in the control box above the hydraulic valve table. Turn the key to start the engine.

Use the buttons in the control box to control the engine speed.

- Read the engine manual for more information.

Note:

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

Power Shut-Off Switch:

The red switch between the engine and hydraulic reservoir, controls the electricity. Turn on before starting the engine. Turn off when the conveyor will not be used for extended periods.

Hydraulic Oil Reservoir:

The 95 Litre (25 Gallons) reservoir sits in the corner of the engine cradle. There is a combination thermometer and level gauge mounted on the side.

Fuel Tank:

The 57 Litre (15 US Gallons) tank sits beside the hydraulic oil reservoir. Fuel cap has a level gauge in it.

Hydraulic Oil Filter:

An oil filter is connected to the rear. There is a gauge attached to the filter mount. See Figure 11



Fig 7 - Engine cradle



Fig 8 - Power shut-off switch



Fig 9 - Engine control



Fig 10 - Fuel tank and hydraulic reservoir

Hydraulic Oil Cooler:

The cooler is standard feature to keep down the operational temperature of the oil.

Hydraulic Controls:

The hydraulic valve bank is beside the engine. There are two gauges on the valve bank, to monitor the two separate circuits.

- a. Mover Kit Lever:
This 4 position, spring-loaded lever controls the movement of the conveyor. It drives the wheels forward and reverse, and also swivels the steering wheels for turning left or right.
- b. Conveyor Lift:
This lever raises and lowers the conveyor tube.
- c. Hopper Lift:
This lever controls the height of the steering wheels, which in turn moves the hopper.
 - Lower the wheels, to raise the hopper when driving the unit.
 - Raise the wheels, lowering the hopper into position for unloading.
- d. Conveyor Belt Control:
The hydraulic motor controlling the conveyor belt is turned on and off with this lever.

Note:

If the unit includes a swing-out conveyor, both belts will be controlled with this lever.

Hydraulic Ball Valve to Conveyor Lift Cylinder:

This valve allows oil into, or out of, the hydraulic cylinder which raises/lowers the tube.

IMPORTANT:

Open the ball valve to raise/lower the conveyor. The valve must be closed fully when conveyor is to remain in fixed position. This is to prevent the ram from creeping downward during operation.



Fig 11 - Hydraulic Filter and Hydraulic Cooler

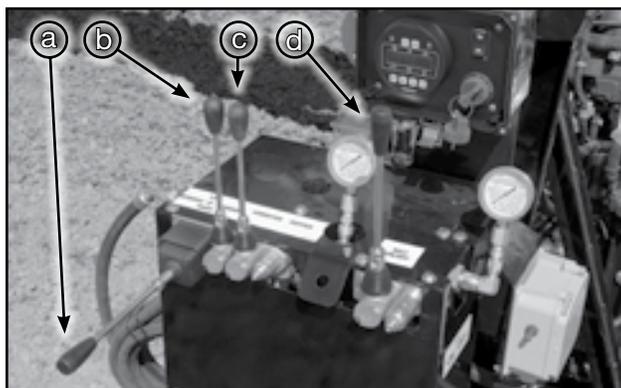


Fig 12 - Hydraulic levers



Fig 13 - Hydraulic pressure gauges



Fig 14 - Hydraulic ball valve to the lift cylinder

NOTICE: Equipment Damage Likely
Always disengage both drive wheels before towing. Hydraulic motors will be damaged if driven at highway speeds.

Drive Wheels:

The hydraulically driven wheels have a lever to manually engage or disengage the drive mechanism. When disengaged, insert the retaining clip to secure.

IMPORTANT:

As a default, for better maneuverability, engage one drive wheel. Only engage both wheels when driving conditions require.

ENGAGE ONLY WHEN STUCK

Driving with both motors engaged may cause failure

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Drive Box and the Hydraulic Motor:

The conveyor belt winds through the Positive Pinch Drive Box, and is driven by hydraulics.

Hopper Steering Wheels:

The wheels at the hopper turn the unit. Use the specified lever on the hydraulic valve bank to operate.

Hydraulic cylinders raise and lower the wheels. 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.

Standard Collapsible Hopper:

Hoppers are designed with spring loaded hopper frames. This will allow the truck box to push the hopper edge down.

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



Fig 15 - Driver's side drive wheel

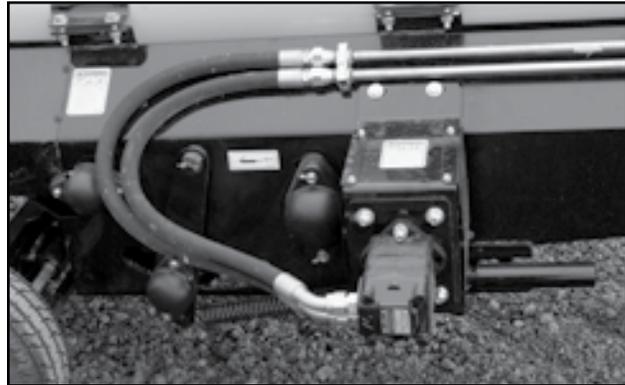


Fig 16 - Drive box with hydraulic motor



Fig 17 - Steering wheels



Fig 18 - Standard collapsible hopper

Hopper Clip:

The standard hopper come with a clip on the frame to hold the canvas sides down when required.



WARNING: Unexpected Movement
Control the hopper frame at all times.
Sudden release can cause serious injury.

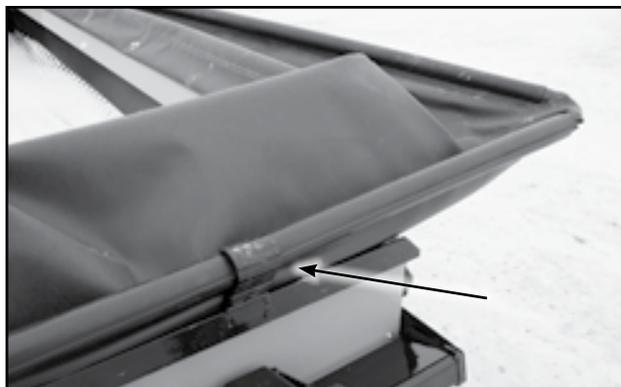


Fig 19 - Hopper clip

Chevron Belt with Alligator® Lacing:

Convey-All™ conveyors use a 2 ply, 220 weight, chevron belt with Alligator® Lacing.

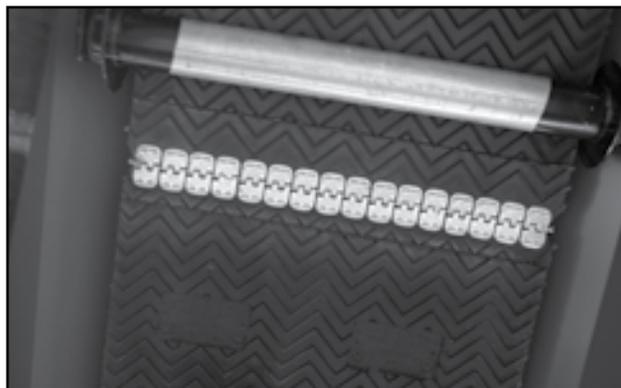


Fig 20 - Chevron belt with Alligator® lacing

Discharge Spout:

The discharge spout is designed with six settings to position the hood at the appropriate configuration for the application.

Move the spout into one of the hole settings if the material needs to be directed further back 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.



Fig 21 - Discharge spout

Discharge Spout with Electric Actuator (Optional):

On certain models, the discharge spout is available with 12 volt DC electric tilt control.



Fig 22 - Electric actuator

Electric Switches:

On the side of the valve bank, is a junction box where the electrical switches are located.

- Top switch works the lights.
- Bottom, toggle switch controls the optional actuator at the discharge spout.

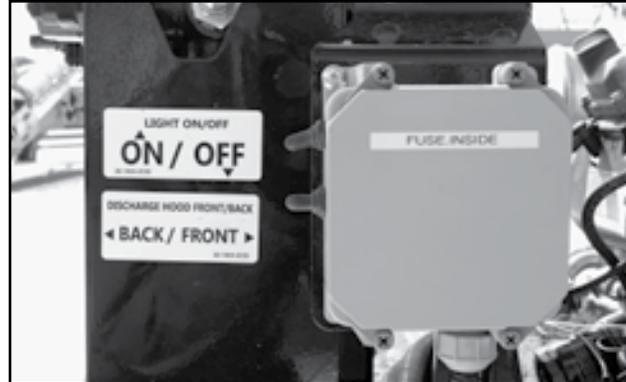


Fig 23 - Electrical junction box

Working Lights:

Lights illuminate the hopper and discharge ends of the machine. They help make operating the conveyor at any time safe and convenient.

Transport Light Package (Optional):

On certain models, a 12 volt DC transport light package is available. The wiring harness would plug into a truck.



Fig 24 - Hopper working light

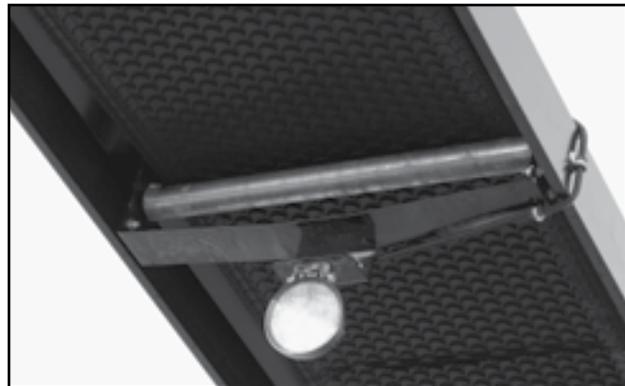


Fig 25 - Discharge working light

Hitch and Jack Storage Plate:

This plate is mounted on the undercarriage. Store the jack and hitch here when they are not in use.

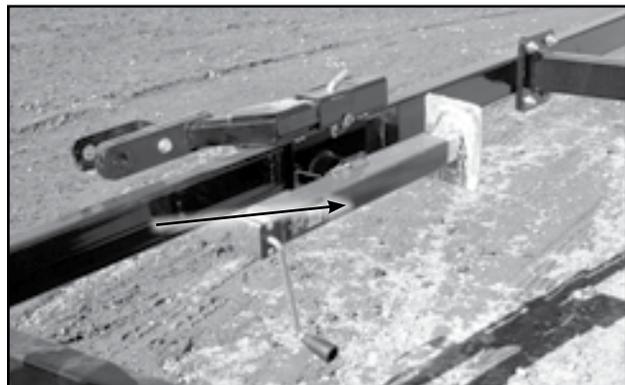


Fig 26 - Storage plate

Swing-Out Conveyor (Optional):

A swing-out conveyor is available for convenient unloading. Refer to Section 3.3

Swing-Out Remote Control (Optional):

Refer to Section 3.4



Fig 27 - Optional swing-out

Document Holder:

The document holder is located between the engine and the hydraulic valve table.

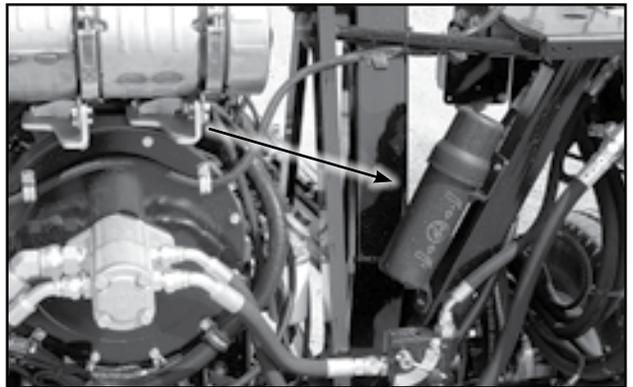


Fig 28 - Document holder

Oil Reservoir Heater (Optional):

This is an electric heater patch, which is glued to the bottom of the Hydraulic Reservoir.

Block Heater (Optional):

This is an electric heater patch, which is glued to the bottom of the engine block.

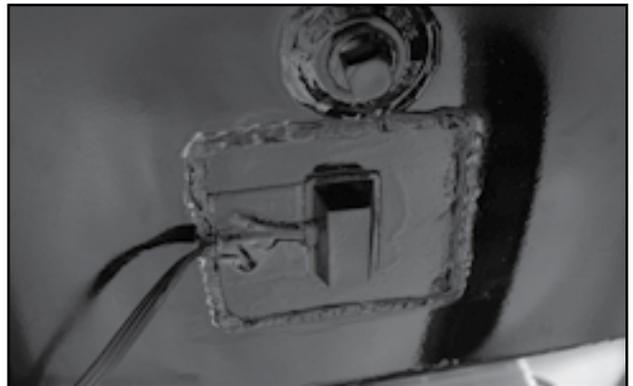


Fig 29 - Oil reservoir heater

Wheel Chocks:

Wheel chocks are available.



Fig 30 - Wheel chocks

3.3 - 10 INCH SWING-OUT CONVEYOR (OPTIONAL)

The swing-out conveyor is an extension of the main tube conveyor. It is available for tube conveyors models with a more substantial undercarriage.

The discharge spout of the swing-out is attached to the main conveyor at the hopper. The swing-out can swivel 270°, placing its hopper in a convenient position for unloading.

This swing-out conveyor is available as:

- a manual drive unit, where it is pushed around the main conveyor.
- a hydraulic drive unit, which is driven by a mover kit.

S-Neck Hopper:

The swing-out is designed with a spring-loaded hopper frame. This will allow the truck box to push the hopper edge down when raising the hoist.

Hopper Frame Winch:

The hopper sides can be raised or lowered with a manual winch.

Hopper Wheels:

Manual drive units have a set of wheels under the front end of the hopper. They are used to manually roll the hopper around the main conveyor.

Swing-Out Mover Kit (Optional):

These wheels are attached below the transition between hopper and tube. The hydraulic valves controlling the mover kit are located on the swing-out's tube, up from the hopper.



Fig 31 - 10 Inch hydraulic drive swing-out (optional)



Fig 32 - Hopper winch



Fig 33 - Hopper wheels



Fig 34 - Swing-out mover kit

Discharge Spout:

The discharge spout is attached to the main conveyor above it's hopper. The spout can tilt and rotate as needed with the movement of the swing-out.

Use the removable cover, attached in front of the spout, to access the main belt.



WARNING: Rotating Belt Hazard
Be sure the cover is in place before running the belt.



Fig 35 - Discharge of 10 inch swing-out

Hydraulic Valve Bank:

The set of 3 hydraulic valves located above the hopper of the swing-out, operates the following movements:

- Drives the wheels, moving the swing-out around the main conveyor.
- Raises/Lowers the swing-out's mover kit wheels, lifting the hopper off the ground.
- Conveyor belt control includes detent to keep the belt rotating in only one direction. This valve controls both the swing-out and main conveyor belts.

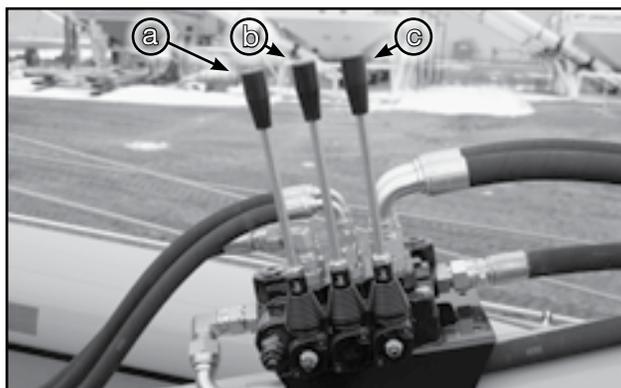


Fig 36 - Hydraulic valves

Valve Settings:

- The speed of the swing-out's mover kit can be adjusted. Use the set screw with lock nut below the valve.

There is another set screw on the rear of the drive valve, which must also be adjusted.

- Twist set screw "IN" to give less play to the handle, so the wheels don't turn too fast.
- Twist it "OUT" giving more play in the handle, to speed up the wheels.

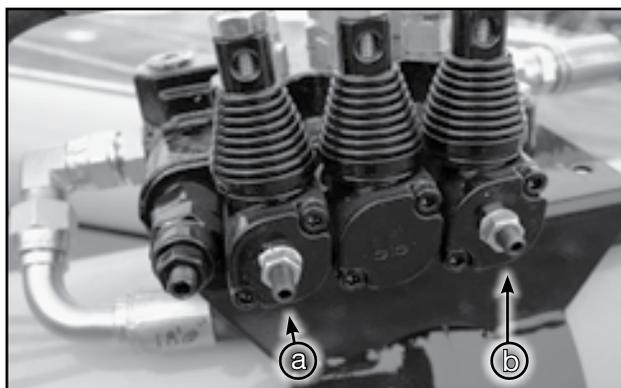


Fig 37 - Front view of valves. Mover kit front (a), Belt (b)

- This set screw is for the conveyor belt. It has been preset by the factory. **DO NOT ADJUST.**

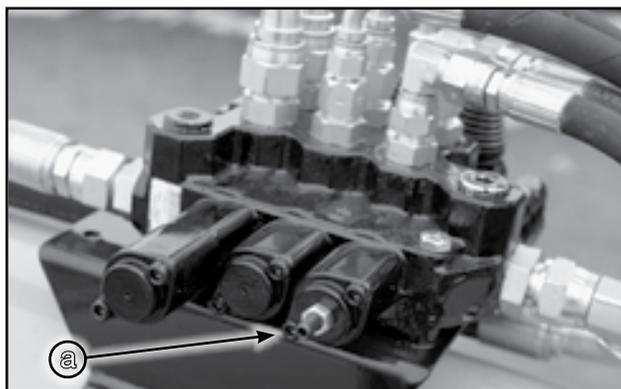


Fig 38 - Rear view of valve. Mover kit rear (a)

Hydraulic Oil Flow Regulator:

If equipped with a swing-out, a regulator is added to divide the hydraulic oil flow between main conveyor and swing-out. It has been preset by the factory to optimize the flow to both the movements and belt speed. **DO NOT ADJUST.**



Fig 39 - Hydraulic oil flow regulator

Swing-Out Winch:

A winch is located on the side of the main conveyor's hopper. The cable is routed through the hoist. It is attached by a hook to the front of the hopper. It is used to raise and lower the swing-out.

Remove the cable hook from the end of the hopper, when the swing-out is sitting on the ground. Then, it can be pivoted into position.

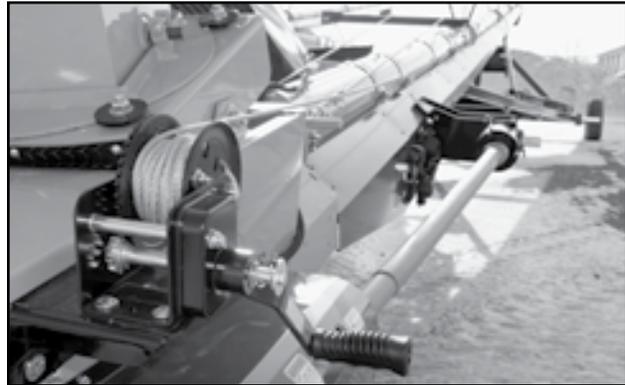


Fig 40 - Swing-out winch

Transport Hooks:

There are 2 hooks at the end of short chains (a), to hold up the swing-out's hopper.

When the swing-out is raised off the ground, with the winch (b). Attach both hooks to the eyelets on either of the hopper frame.

This will relieve pressure from the winch. It will also secure the swing-out for transportation or storage.

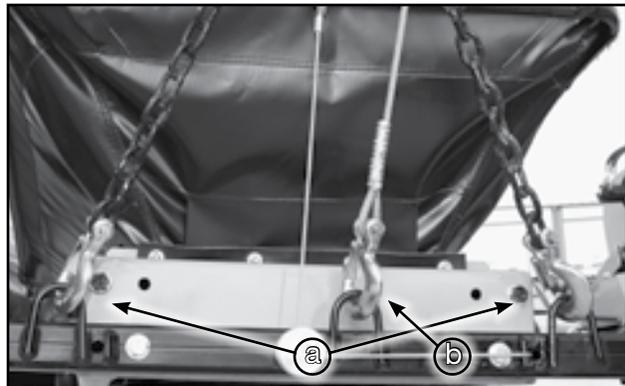


Fig 41 - Transport hook (a), winch hook (b)

Hydraulic Motor:

The swing-out conveyor belt is run by hydraulics. It needs to an external source, such as a tractor.



Fig 42 - Hydraulic motor on swing-out

3.4 SWING-OUT REMOTE CONTROL (OPTIONAL)

For the swing-out's movements, there is an optional remote control package.

Manual Over-Ride Switch:

The large, green button in front of the valve table is the over-ride switch. See Figure 41

To control the swing-out manually, press the over-ride switch (Note: there is now pressure shown in the gauge). Press the switch, and the appropriate valve button at the same time.

Hydraulic Valves:

- a. This manual valve operates the winch which raises/lowers the swing-out.

It has a gauge to monitor the pressure in the circuit.

- b. This remote function raises/lowers the hopper, moving the mover kit wheels on the swing-out.
 - Remotely, use the buttons on the handset.
 - Manually press the over-ride switch, together with the button on the front or back of the upper blue valve.

- c. The second remote function drives the mover kit wheels forward or reverse.
 - Remotely, use the buttons on the handset.
 - Manually press the over-ride switch together with the button on the front or back of the lower blue valve.

- d. The manual valve on the far right, operates the conveyor belt.

The belt on the swing-out and the main conveyor belt are timed correctly so the swing-out will not overfeed the second.

Relief Valve:

This is a relief valve for the mover kit. It has been preset by the factory. **DO NOT ADJUST.**

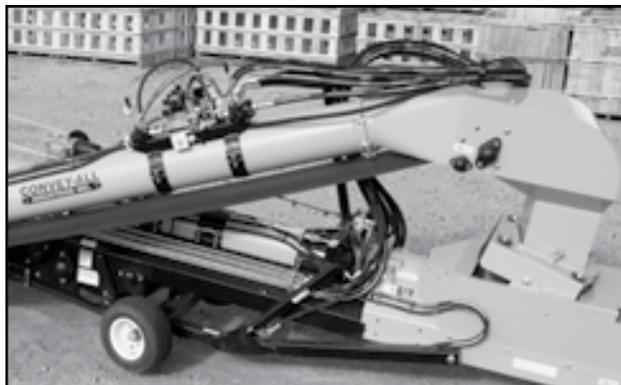


Fig 43 - Remove control table on the swing-out

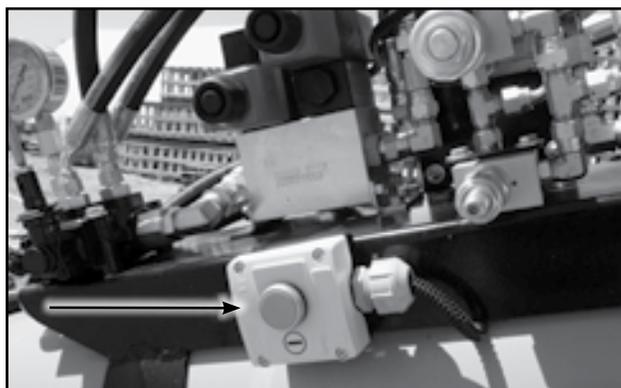


Fig 44 - Green, manual over-ride switch

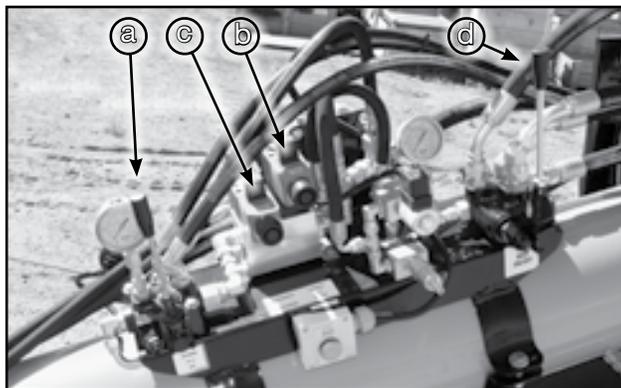


Fig 45 - Hydraulic valves



Fig 46 - Relief valve

Remote Control Handset:

The handset is stored in the document holder, which is attached to the Engine Cradle.

It has a power button, and two LEDs:

- one to indicate when battery life is low.
- The second shows when you have wireless connection to the bank of valves.

There are two sets of red and green buttons, and an oval blue button:

- a. The blue button must be pressed at the same time as the other button to move the swing-out.
- b. The top buttons raise and lower the swing-out's hopper, moving the mover kit wheels.
- c. The second set of buttons drive the wheels forward or reverse.

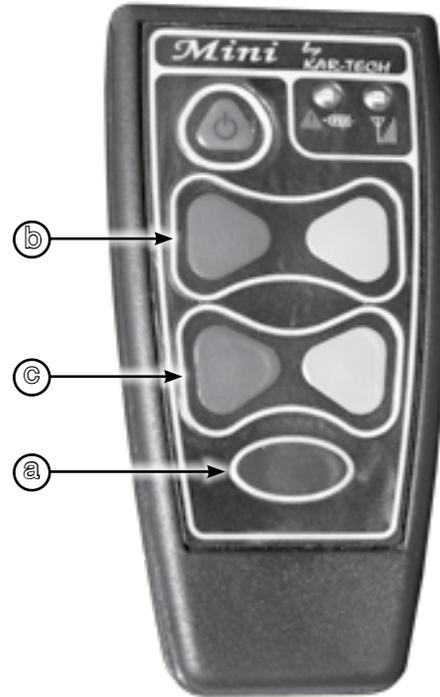


Fig 47 - Remote control handset

3.5 MACHINE BREAK-IN

There are no operational restrictions on the conveyor 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 Work:

1. Read the conveyor and engine operator's manuals.
2. Run the unit for half an hour to seat the conveyor belt and flashing around the hopper. It is normal for rubber from the flashing to be expelled out the discharge and form a pattern on the belt.

After Operating for 1/2 hour:

3. Re-torque all the wheel bolts, fasteners and hardware.
4. Check fuel level, engine oil level and hydraulic oil level.
5. During the conveyors first few minutes of operation, check belt alignment to ensure preset alignment and tension does not vary under loaded conditions. Adjust as required.
6. Check the flashing seal on the hopper. If any product comes out of the hopper around the flashing; stop the belt, loosen flashing mounting screws and adjust. Retighten anchor screws and try again. Repeat until no product is lost.
7. Check condition of all hydraulic lines, hoses and connections. Repair or replace any damaged system components.
8. Check that all guards are installed and working as intended.

After Operating For 5 Hours and 10 Hours:

Repeat steps 1 through 8 above.

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

3.6 PRE-OPERATION CHECKLIST

Efficient and safe operation of the conveyor requires that each operator knows the operating procedures.

It is important for both the personal safety and maintaining the good mechanical condition of the machine that this checklist is followed.

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

1. Check worksite. Clean up working area to prevent slipping or tripping.
2. Be sure that the battery is fully charged. If needed, charge the battery before connecting it with the battery cables.
3. Lubricate and service the machine as per the schedule outlined in the Section 4.2.
4. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
5. Check that the belt is properly tensioned and aligned. Ensure it is not frayed or damaged. Refer to Section 4.3.1 and 4.3.2
6. Be sure conveyor wheels are chocked.
7. Check that discharge and intake areas are free of obstructions.

NOTICE: Upending Hazard
Anchor or support conveyor during operation. When lower half empties of material, the weight balance transfers to the discharge end of the machine, which can cause upending.

3.7 ATTACHING TO TOW VEHICLE

The conveyor may be towed by a truck when transporting over long distances.

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



WARNING: Electrocutation Hazard
Ensure enough clearance from overhead obstructions, power lines, other equipment.

1. Clear the working area of bystanders, especially small children.
2. If the conveyor is above a storage facility:
 - Raise the conveyor tube so the discharge spout clears the structure.
 - Use the mover kit, to drive the conveyor away.
 - Lower the tube to it's collapsed position.
3. Ensure that there is sufficient room and clearance to back up the tow vehicle to the conveyor.

NOTICE: Upending Hazard

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

4. The hitch and jack are removable. Install the jack.
5. Raise the hopper end of conveyor high enough to install the hitch.

Secure hitch with the anchor pin. Place the retainer before using hitch.

6. Align the tow vehicle's drawbar with the hitch of the conveyor while backing up.
7. Set the park brake before dismounting.
8. Use the jack, to raise the hopper and hitch to the drawbar height. Install the pin with its retainer clip, to connect the tow vehicle.
9. Secure the safety chain.

The conveyor is ready for transport.



Fig 48 - Jack



Fig 49 - Hitch

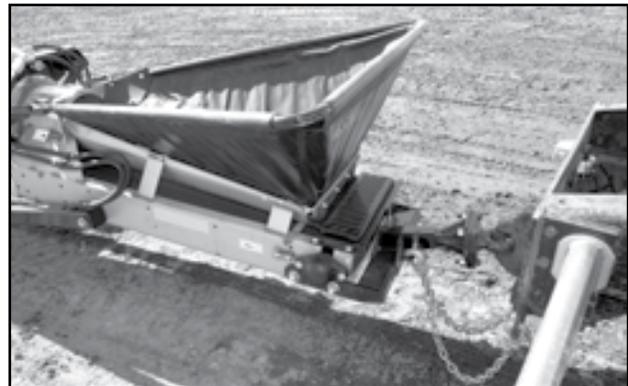


Fig 50 - Hitch and safety chain

3.8 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 3.11
3. Attach the jack. Use it to raise and support the hopper.
- or -
Start the conveyor's engine, then lower the steering wheels.
4. Detach the conveyor from the tow vehicle.



CAUTION: Safety Hazard
Remove hitch from conveyor to prevent interference and clear a tripping hazard.

5. If not done before, start the conveyor's engine, and lower the steering wheel.
6. Retract and store, the jack.



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

7. Drive the conveyor to the working area while it is in its lowered configuration.

NOTICE: Damage to Equipment Likely
Swing-out conveyor must be lowered and swung around the hopper, to be inline with the main conveyor before raising the tube.

8. **IMPORTANT** - If equipped with a swing-out:
Before raising the conveyor tube, lower the swing-out, and rotate it to be in front of the hopper.

The swing-out can then follow the main conveyor as it is positioned over the bin.



Fig 51 - Start engine



Fig 52 - Drive conveyor



Fig 53 - Drive in collapsed position

9. Use the hydraulics to raise the main conveyor tube to working height.
10. Advance until the conveyor is in position:
 - the discharge spout is above the storage bin. and/or
 - the hopper is in position for unloading.

IMPORTANT:

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

NOTICE: Upending Hazard

Always check the weight of the hopper end to prevent upending.

11. Stake or weigh down the hopper end to prevent upending when the machine is emptying.
12. Close hydraulic ball valve, to lock the conveyor tube in position.
13. Chock the drive wheels.
14. If equipped with swing-out conveyor:
Now, the swing-out conveyor may be rotated around the main conveyor and into position.

IMPORTANT:

When removing the conveyor from a work location, move the swing-out conveyor to directly in front of the main tube. Then, drive the main conveyor straight back from the bin, the swing-out will be pushed ahead.

Lower the conveyor completely, then store the swing-out.



Fig 54 - Working height

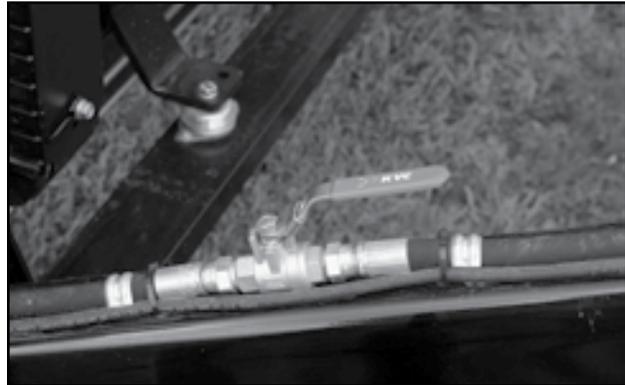


Fig 55 - Hydraulic ball valve to tube lift cylinder



Fig 56 - Chocked wheels

3.9 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 3.6
3. Review the Workplace Hazards schematic and use extra care when inside the hazard 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 unloading into the conveyor's hopper.

3.9.1 Starting Conveyor:

6. Turn the red, Power Shut-off switch "ON".
7. Turn the ignition key to start the engine.

Release the key when the engine starts.

8. Run for 2-3 minutes to allow the engine to warm.
9. Increase engine speed to full throttle.

IMPORTANT:

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

10. Turn on the conveyor belt using the hydraulic valve lever.
11. Start the flow of material and unload into hopper.

3.9.2 Stopping Conveyor:

1. Stop unloading. Wait for conveyor belt to empty.
2. Stop the conveyor belt.
3. Move the throttle to idle position.
4. Turn off engine and remove ignition key.

3.9.3 Emergency Stopping:

Although it is recommended that the tube be emptied before stopping, in an emergency situation, stop or shut-down the engine immediately.

See to the emergency.

Correct before resuming work.

3.9.4 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.

3.9.5 Unplugging:

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

1. Stop the conveyor belt.
2. Throttle down. Then, top the engine.
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.

3.10 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 belt. 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/truck to conveyor hopper.
- The hopper is designed with flashing to seal the junction between the belt and 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 belt lacing 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.



Fig 57 - CST unloading into Conveyor

3.11 TRANSPORTATION

Convey-All™ Self-Propelled Conveyors are designed to be conveniently moved from place to place.

When transporting the unit, follow this procedure:

1. Refer to Section 3.7: Attaching to Tow Vehicle.
2. Ensure the conveyor unit is ready for transport:
 - It is in its fully collapsed position.
 - The swing-out conveyor is stowed securely.
 - Hydraulic lines are closed.
 - Hitch is attached using anchor pin, retainer and safety chain.
3. Be sure all bystanders are clear of the machine.
4. Raise the jack. Remove and store it.
5. If equipped with transport lights, 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 80km/h (50mph).
13. During periods of limited visibility, use pilot vehicles or add extra lights to the machine.
14. Always use hazard flashers on the tow vehicle when transporting unless prohibited by law.



Fig 58 - Safety Chains



Fig 59 - Hitch and Jack Storage Plate



Fig 60 - Remove Chocks

3.12 STORAGE

After the season's use, or when the conveyor will not be used for an extended time, it should be inspected and prepared for storage.

Repair or replace any worn or damaged components. This will prevent any unnecessary down time at the start of next season.

To have a long, trouble free life, follow this procedure to preparing the unit for storage:

1. Remove all left over material from the hopper and the tube.
2. Thoroughly wash the unit to remove all product, dirt, mud, debris and residue.
 - Wash on top and under the belt.
 - Clean inside the conveyor tube.
3. Inspect all moving or rotating parts to see if anything has become entangled in them.

Remove the entangled material.

4. Lubricate all grease fittings. Refer to Section 4.2

Ensure all grease cavities have been filled with grease, to remove any water residue from the washing.

This also protects the bearing seals.

5. Check the condition of the conveyor belt. Replace if necessary.
6. Inspect all hydraulic hoses, fittings, lines, couplers and valves. Tighten any loose fittings.

Replace any hose that is badly cut, nicked, abraded or is separating from the crimped end of the fitting.

7. Touch up all paint nicks and scratches to prevent rusting.
8. Turn the Power Shut-Off switch "OFF".
9. Remove the battery.
 - Be sure it is fully charged.
 - Store it inside.
 - Do not sit the battery on a cold concrete floor.

10. Remove ignition key, and store in a secure location.

11. Select a storage area that is dry, level and free of debris.

If the machine cannot be placed inside, cover the engine with a waterproof tarpaulin and tie securely in place.

12. Store unit in an area away from human activity.

13. Do not allow children to play on or around the stored machine.

IMPORTANT:

If the conveyor has been stored for more than 6 months, run the engine for 2-3 minutes. Then change the oil, while still warm, to remove any condensation.



Fig 61 - Collapsed Position

Section 4: SERVICE AND MAINTENANCE

Servicing Safety

- Review the Operator's Manual and all safety items before maintaining the machine.
- 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.
- Place all controls in neutral. Stop engine. Remove the key. Wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Relieve pressure from hydraulic circuit before servicing.
- Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition.
- 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 operation, install and secure all guards when maintenance work is completed.
- Keep safety decals clean. Replace any decal 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 and Engine Oil:

Refer to the engine manual for specific information. The fuel tank capacity is 57 litres (15 US Gallons).

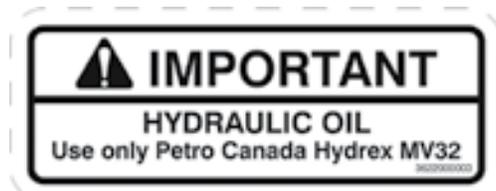
Grease:

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

Hydraulic Oil:

Use a standard heavy duty hydraulic oil for all operating conditions.

The reservoir capacity is: 95 Litre (25 US Gallons).



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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.

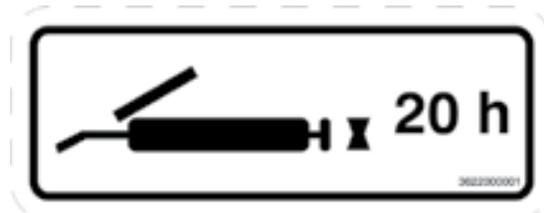
4.1.1 Greasing:

Use the Service Record provided on page 4-15, 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.



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Fig 62 - Diesel engine

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

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

4.2.1 Every 10 Hours or Daily:

1. Refer to the engine manual for specific service and maintenance schedules.
2. Check fuel level.
3. Check oil level in hydraulic reservoir.
4. Inspect the conveyor belt lacing.
5. Grease hopper roller bearings.



Fig 63 - Hydraulic oil reservoir and fuel tank

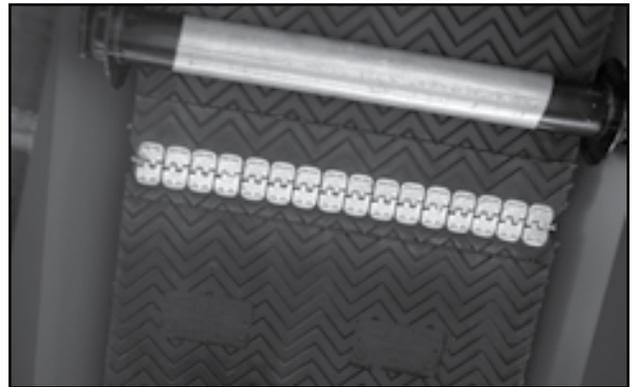


Fig 64 - Alligator® Lacing



Fig 65 - Hopper roller bearings

6. Grease drive box assembly bearings.



Fig 66 - Drive box

7. Grease discharge roller bearings.

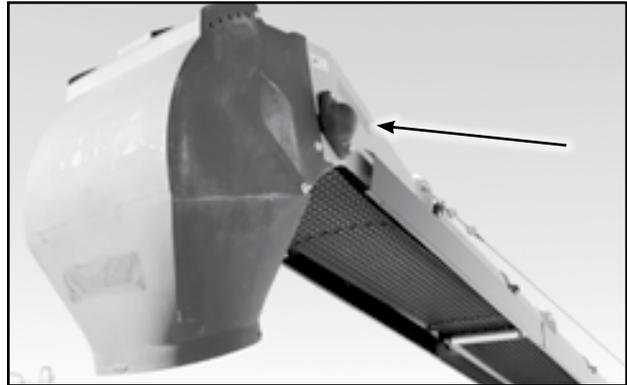


Fig 67 - Discharge roller bearings

8. If equipped with a swing-out conveyor:
- Grease it's hopper roller bearings.
- Transition roller bearings.
- Discharge roller bearings.

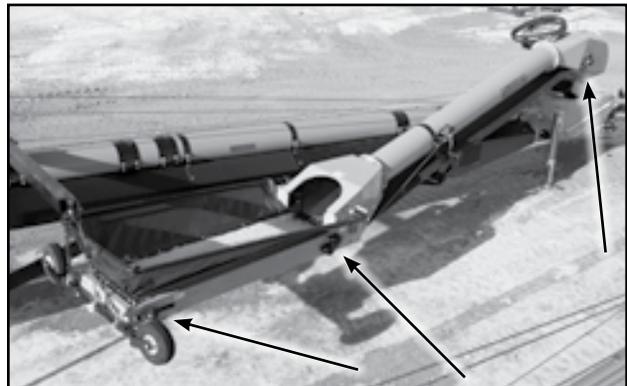


Fig 68 - Swing-out roller bearing positions

4.2.2 Every 50 Hours or Weekly:

9. Check the conveyor belt tension.

Watch the tension more often while breaking-in the conveyor, because the belt might stretch. Refer to Section 4.3.1

Note:

A properly tensioned belt will not slip when in operation.



Fig 69 - Positive pinch drive tension bolts

10. Check conveyor belt alignment.

Watch the alignment more frequently during the first 10 hours, while breaking-in the conveyor. The belt usually seats itself and can be checked weekly after that. Refer to Section 4.3.2

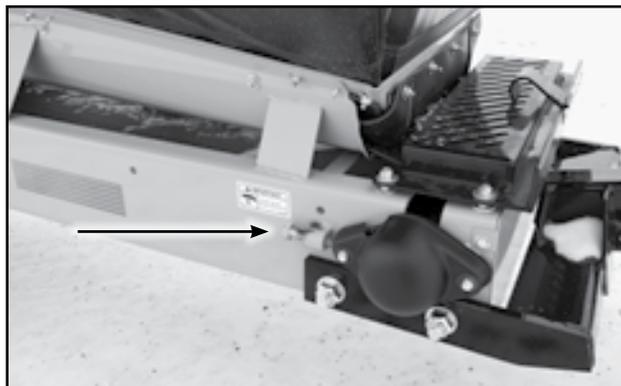


Fig 70 - Adjustment bolt on side of hopper

11. Check the condition of the rubber hopper flashing. Be sure it still seals the hopper to prevent leaking.

If any product comes out of the hopper around the flashing, loosen flashing mounting screws and adjust. Retighten anchor screws and try running the conveyor again. Repeat until no product is lost.

If the flashing is stuck to the belt, manually peel the flashing up and off the hopper. Replace it if necessary.



Fig 71 - Hopper flashing

12. Check hydraulic drive coupler on drive box, for wear.

13. Oil hydraulic drive coupler on drive box
- If equipped, oil the swing-out's hydraulic drive as well.

14. Check for wearing teeth on sprockets of the drive wheels.



Fig 72 - Sprockets on drive wheel

4.2.3 Every 200 hours or Annually:

15. Refer to the engine manual for specific service and maintenance schedules.

16. Change hydraulic oil and filter.

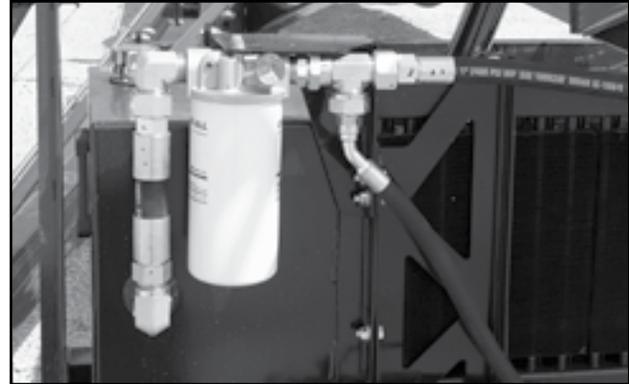


Fig 73 - Hydraulic oil filter

17. Grease steering wheel axle bushings and cylinder.

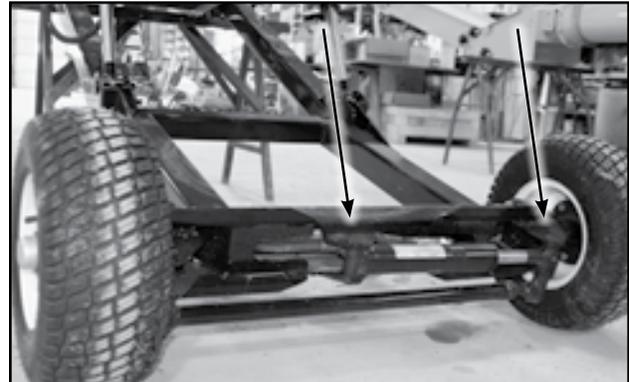


Fig 74 - Steering axle bushing

18. Grease steering wheel lift cylinders.



Fig 75 - Steering wheel lift cylinder

19. Grease both ends of conveyor tube lift cylinder.

20. If equipped, grease swing-out mover kit cylinders.

21. Check for tube straightness.



Fig 76 - Conveyor tube lift cylinder

Adjust eyebolts if required.

22. Repack wheel bearings.



Fig 77 - Eyebolts and cable bridging

23. Thoroughly wash the unit to remove all product,



Fig 78 - Wheels

dirt, mud, debris and residue.

- Wash on top and under the belt.
- Clean inside the conveyor tube.



Fig 79 - Clean conveyor

4.3 MAINTENANCE PROCEDURES

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

Note:

Refer to the engine manual for complete details on your particular model.



WARNING: Rotating Belt Hazard
Turn off engine, lock-out power and wait for all components to stop moving before adjusting the belt.

Idle the engine, then rotate the belt slowly when checking it.



Fig 80 - Tension Bolt

4.3.1 Main 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.

Use the drive box tension bolts to adjust the belt.

Note:

If belt needs more or less slack,
stop belt, and turn off engine.
Move hopper roller 1/4 to 1/2 inch.
Tension the belt at drive box.

IMPORTANT:

If tensioning the belt while it is running,
adjust in small increments,
alternating between the two bolts often.
This will keep the belt aligned.

This conveyor has a 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. It can also be angled back, away from the tension bolt by as much as 2 inches. This indicates that the belt is a well adjusted, and is a good length.

The arm should never be angled towards the tension bolt. This indicates the belt is too long. Measure the angle. If the belt angles 2 inches away from vertical, cut and re-lace the belt 4 inches shorter.

If the arm touches the far edge (away from the tension bolt), the belt is too short. Remove and replace with longer belt.

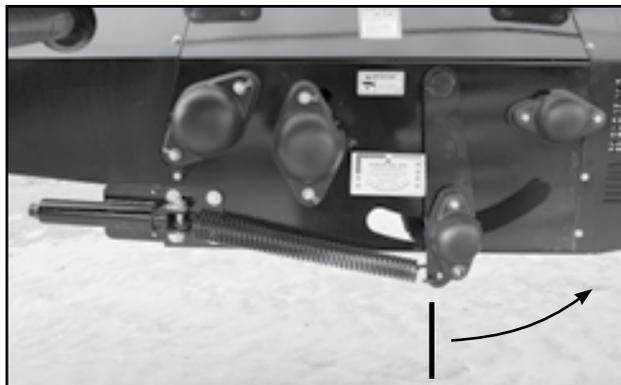


Fig 81 - Belt length indicator



Fig 82 - Roller bearing

4.3.2 Swing-Out Conveyor Belt Tension:

If equipped with a swing-out conveyor, tension its belt as follows:



WARNING: Rotating Belt Hazard
Turn off engine, lock-out power and wait for all components to stop moving before adjusting the belt.

1. Loosen the roller bearing anchor bolts.
2. Use the idler roller adjustment bolts (at the front of hopper) to set the tension of the belt. See Figure 83



Fig 83 - Idler roller adjustment bolts

IMPORTANT:

Adjust in small increments and check often.

4.3.3 Main Conveyor Belt Alignment:**NOTICE: Belt Damage Hazard**

Alignment of the belt must be checked at the hopper, drive box and discharge. Inspect weekly. Unaligned belt will cause damage and void warranty.

NOTICE: Bearing Failure

If a roller is replaced, ensure both ends are evenly aligned with the frame before running. If not, bearing failure may occur.

The belt is properly aligned when it runs in the centre of all rollers. As with tensioning, the alignment should be checked weekly, or when necessary.

**WARNING: Rotating Belt Hazard**

Idle the engine, then rotate the belt slowly when checking alignment.

Turn off engine when adjusting rollers.



Fig 84 - Adjustment bolt on side of hopper

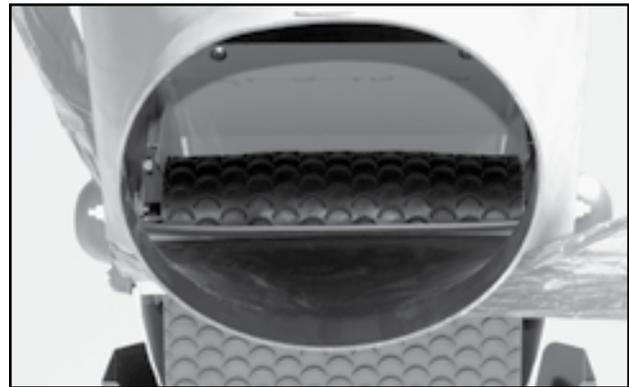


Fig 85 - Inside discharge spout

1. Ensure the Workplace Hazard Area is clear.
 - Refer to Section 2.14

Belt Alignment at Tail Roller:

2. Rotate the conveyor belt slowly, and check the position of the belt on the tail roller.

Note:

If belt is out of alignment,
it will move to the loose side.

Tighten loose side or loosen tight side.

3. Adjust one side of roller at a time.
 - Loosen bearing housing, then adjust the bolt.
4. Tighten the tail roller bearing housing.
5. Rotate the conveyor belt slowly, and check the position of the belt on the hopper roller.
 - Repeat steps until the belt is centred.
6. Replace housing guard.

Belt Alignment inside Drive Box:

Aligning the belt, so it tracks down in the centre of the drive roller, is counter-intuitive! It is opposite from aligning the end rollers.

This time you must loosen the loose side.

This is because the first roller to have contact with the belt is the pinch roller, but the drive roller (second in line) is the only one which can be adjusted.

7. Loosen the drive roller bearing housing on the loose side of the belt.
8. Use the adjustment bolts at the front of the drive box to move the brackets connected to the drive roller.
9. The misaligned belt will travel to towards the loose side of the roller.
 - Loosen the loose side, more.
10. Tighten the bearing housing.
11. Run the belt to check it's alignment.
 - Repeat steps if necessary.
12. Replace the housing guard.

Belt Alignment at Discharge Roller:

13. Stop the belt and turn off the engine.
14. If necessary, remove the discharge spout to view the roller.

Note:

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

15. Adjust one side of roller at a time.
 - Loosen the bearing housing, then adjust.
16. Tighten the discharge roller bearing housing.
17. Run the belt a couple of revolutions and check the alignment.
 - Repeat steps until the belt runs centred.
18. Replace bearing guard.

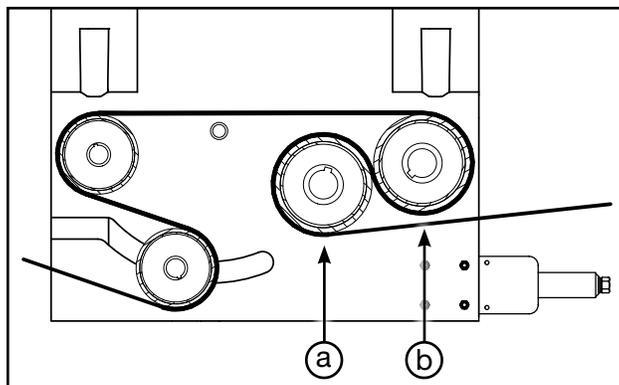


Fig 86 - Drive box, pinch roller (a) & drive roller (b)

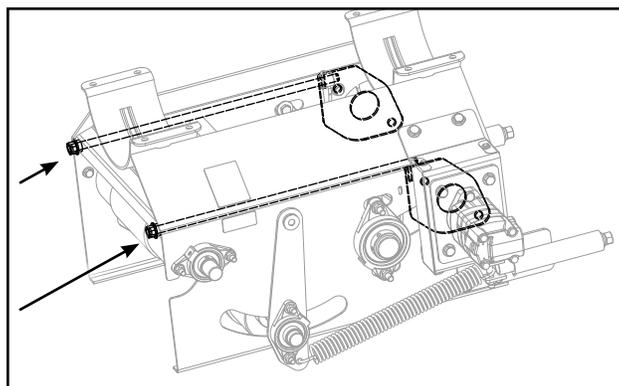


Fig 87 - Adjustment bolts and brackets inside drive box

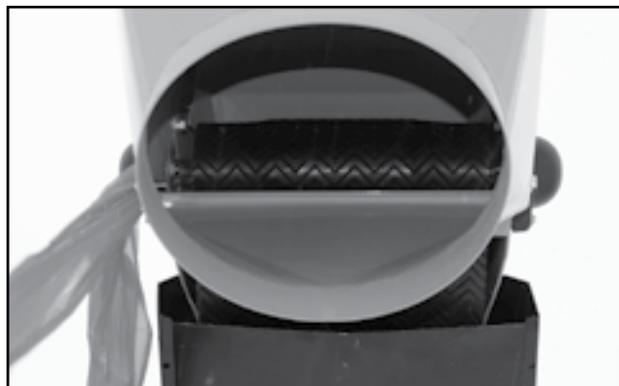


Fig 88 - Inside discharge spout

4.3.4 Swing-Out Conveyor Belt Alignment:**NOTICE: Belt Damage Hazard**

Alignment of the belt must be checked at the hopper, transition and discharge. Inspect weekly. Unaligned belt will cause damage and void warranty.

NOTICE: Bearing Failure

If a roller is replaced, ensure both ends are evenly aligned with the frame before running. If not, bearing failure may occur.



Fig 89 - Adjustment bolts on the swing-out

The belt is properly aligned when it runs in the centre of all rollers. As with tensioning, the alignment should be checked weekly, or when necessary.

**WARNING: Rotating Belt Hazard**

Idle the engine, then rotate the belt slowly when checking alignment.

Turn off engine when adjusting rollers.

1. Rotate the conveyor belt slowly, and check the position of the belt at the hopper, transition and discharge.

Note:

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

2. Adjust one side of roller at a time.
 - Loosen bearing housing, then adjust the bolt.
3. Tighten the roller bearing housing.
4. Rotate the conveyor belt slowly, and check the position of the belt on the roller.
 - Repeat steps until the belt is centred.
5. Replace housing guard.
6. Continue the above process to check and adjust the hopper, transition and discharge roller.

4.3.5 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. Loosen the tension bolts at the drive box to release pressure on the springs connected to the take-up roller.
3. Pull all the slack to the lacing area.
4. Remove the lacing rod and open the belt.
5. Attach the new belt to the lacing end of the old belt 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 around the drive rollers, and into place.

7. Disconnect the old belt.
8. Interconnect the ends of the new belt lacing.
9. Push rod through the lacing to fasten the belt.

Note:

Cordless drill can be used to thread the rod.

10. Cut off excess rod.
11. Crimp lacing at one end to lock the rod in place.
12. Cut and taper belt corners, at both ends of lacing.

IMPORTANT:

Taper the belt corners, so they don't catch when running.

Note:

Use the same procedure for both main and swing-out conveyors.

13. Set belt tension. Refer to Sections 4.3.1 and 4.3.2
14. Set the belt alignment.
Refer to Section 4.3.3 and 4.3.4.

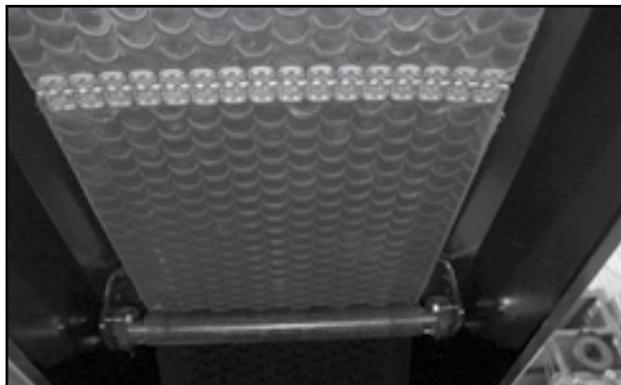


Fig 90 - Conveyor belt seam, as seen from under tube

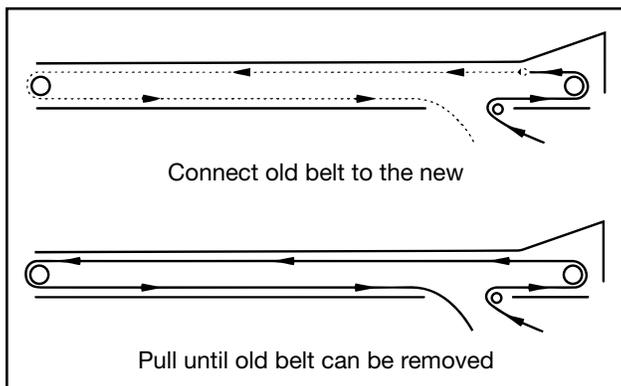


Fig 91 - Threading the belt

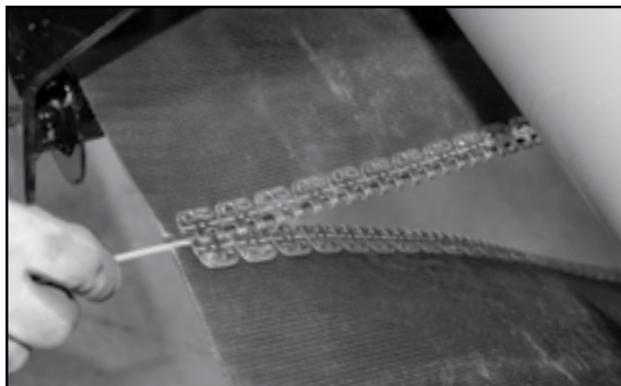


Fig 92 - Thread lacing rod

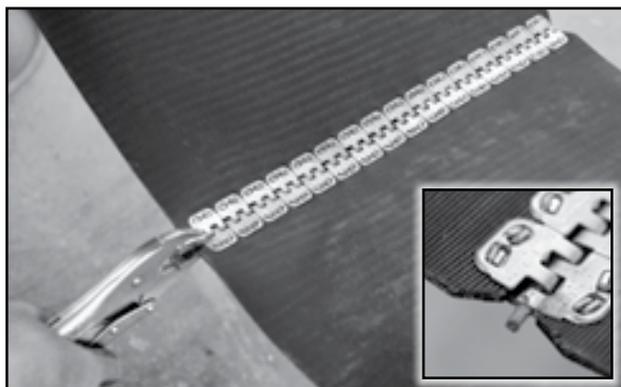


Fig 93 - Crimp lacing and cut corners

4.3.6 Changing Hydraulic Oil and Filter:

1. Place all controls in neutral, stop engine and remove ignition key before maintaining.



WARNING: Hot Liquid
Engine and hydraulics must to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin.

IMPORTANT:

Annually, have an oil sample tested for particle count.

2. Allow the hydraulics to cool before changing oil.

Note:

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

3. Place a large pan or pail under the drain plug. The reservoir capacity is 95 Litre (25 US Gallons).
4. Remove drain plug and allow to drain for 10 min.
5. Install and tighten the drain plug.
6. Dispose of the used oil in an approved container and manner.
7. Fill the reservoir with specified oil.
8. Place a pan under filter to catch any spilled oil.
9. Remove hydraulic oil filter, and dispose of it.
10. Fill the new filter with hydraulic oil.
11. Apply a light coat of oil to the O-ring and install the new filter. Snug up by hand and then tighten another 1/2 turn.
12. Run the engine for 1-2 minutes and check for oil leaks.
13. If leaks are found around the drain plug or filter, tighten slightly.
14. Check oil level. Top up as required.

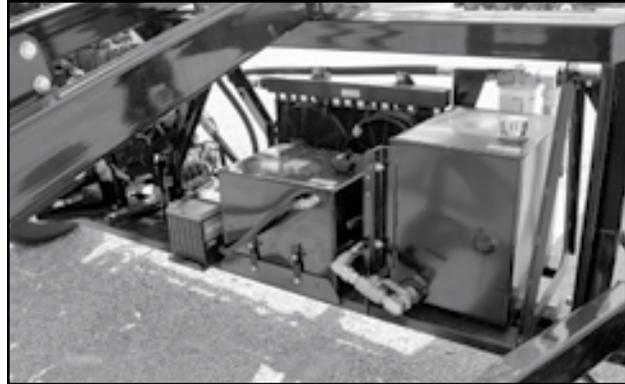
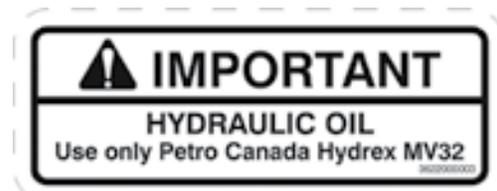


Fig 94 - Hydraulic oil reservoir



Fig 95 - Hydraulic oil filter



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4.4 SERVICE RECORD

See Section 4.2 for service intervals. This schedule is only a general guide under good conditions. Under extreme, or unusual circumstances adjust service timing accordingly.

For more detailed schedule pertaining to the specific engine model, consult its manual.

Copy this page to continue record.

Maintenance	Hours																			
	Serviced By																			
10 Hours or Daily																				
Check Fuel Level																				
Check Hydraulic Oil Level																				
Inspect Conveyor Belt Lacing																				
Check Radiator Fluid Level																				
Grease Hopper Roller Bearings																				
Grease Drive Box Roller Bearings																				
Grease Discharge Roller Bearings																				
Grease Swing-Out Roller Bearings																				
50 Hours or Weekly																				
Check Conveyor Belt Tension																				
Check Conveyor Belt Alignment																				
Check Hopper Flashing																				
Check and Oil Hydraulic Drive Coupler																				
Check Wear on Sprocket Teeth																				
200 Hours or Annually																				
Change Hydraulic System Oil and Filter																				
Grease Drive Wheel Axle Bushing/Cylinder																				
Grease Steering Wheel Lift Cylinders																				
Grease Conveyor Tube Lift Cylinder																				
Grease Swing-Out Mover Kit Cylinders																				
Check Tube Straightness																				
Repack Wheel Bearings																				
Wash Machine																				

4.5 ORDERING PARTS

Always give the Model Number and Serial Number when ordering parts.

To get your parts promptly the following information will be required:

- The part name and number
- Your Name, Address, Town, Province/State, Country
- Complete information for shipping

Confirm all phoned in orders in writing. If Purchase Orders are required please note the number on the written order.

Unless claims for shortages or errors are made immediately upon receipt of goods, they will not be considered.

Inspect all goods received immediately upon receipt. When damaged goods are received, insist that a full description of the damage is made with the carrier against the freight bill. If this is insisted upon, full damage can be collected from the transport company.

No responsibility is assumed for delay or damage to merchandise while in transit. Dealers responsibility ceases upon delivery or pickup of shipment from or to the transportation company. Any freight damage claims must be made with the transportation company, not with the dealer.

Section 5: TROUBLESHOOTING

In this section, is a list of common problems, causes and solutions which may be encounter.

If problems are confronted which are difficult to solve, even after having read through this section, please contact your authorized dealer, distributor or the Convey-All Industries Inc. Before you call, please have this Operator’s Manual and the unit’s serial number ready.

Problem

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

Engine won’t start

No electrical charge to starter	Turn Power Shut-Off switch “ON”
Low battery charge	Recharge or replace
No fuel	Refuel
Cold engine	Open choke
Air filter dirty	Clean or replace the air filter

Electrical components do not function

Fuse may have blown	Replace a fuse. Check inside the junction box beside valve table. A fuse is connected to electrical cables between the engine and valve table. Another fuse is in the junction box by the swing-out RC receiver.
---------------------	--

The engine bogs down or is labouring

Not enough power	Open the gate to unload more product. This allows the governor to torque and engage.
Hopper flashing too tight	Adjust to loosen the flashing

Conveyor belt doesn’t turn or is slipping

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
Conveyor belt loose	Tighten and align
Conveyor belt loose because it has stretched	Shorten belt
Conveyor belt frozen to tube from operating in high humidity conditions in extreme cold	Remove conveyor from area of high humidity and continue to run empty so the belt dries prior to freezing
No power	Start engine, increase speed to maximum RPM
Seized bearing	Check all bearings, Replace any that are rough or seized

Conveyor belt doesn't turn or is slipping, continued

Belt/roller is jammed	Check for sticks, stones, other objects jammed in belt drive area and remove
Set screw (relief valve) on Detent on control valve on belt drive valve isn't set correctly	Sweet spot is to turn the set screw all the way in, then turn back 1-1/2 turns. Turning back/out increases volume of flow, turning in increases pressure.
Hydraulic motor on drive roller may be damaged	Hydraulic motor may need to be replaced

Conveyor belt won't align

Roller lagging may be worn	Replace roller or have it re-lagged
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Conveyor belt fraying

Belt not aligned	Align and adjust tension
------------------	--------------------------

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
--	-------------------------

Low capacity

Conveyor belt not tight enough	Tighten conveyor belt
Conveyor belt not pinched enough	Inside drive box there is a drive roller and pinch roller. Be sure the belt is snug between both rollers.
Conveyor angle exceeds 30 degrees	Reposition with a lower tube slope

Belt is slowing down

Problem with 2 stage pump	Check flow of the pumps. Replacement of entire pump may be needed
---------------------------	---

No hydraulic flow

Hydraulic valve closed or plugged	Open hydraulic valve
	Clean or replace hydraulic valve
Hydraulic pump may be damaged	Check hydraulic pump. Replace if necessary
Hydraulic pressure may be low, check gauge. It should be in 2000 lb range	Check hydraulic pump. Replace if necessary

Drive wheel keeps sinking to the ground

Leak in hydraulic manifold or cylinder	Replace cartridge in check valve, or replace seals in cylinder
--	--

10 inch swing-out mover kit drives too fast/too slow

Hydraulic valve adjustment incorrectly set	Twist set screw IN to slow down wheels Twist set screw OUT to speed up
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Section 7: REFERENCE

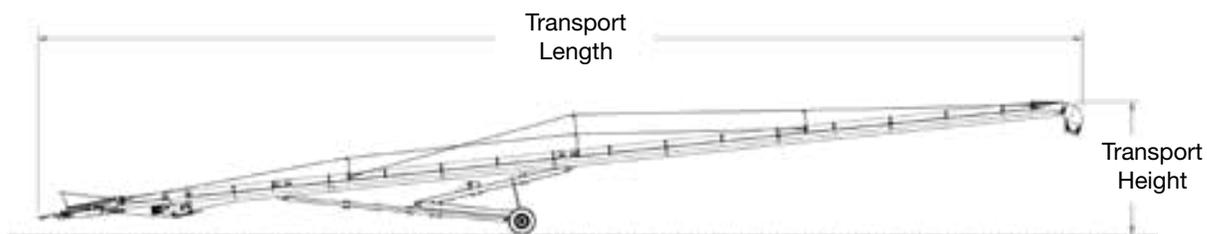
For information not included here, or for a digital copy of this manual, please call your dealer or Convey-All Industries Inc. directly for assistance (1-800-418-9461).

7.1 SPECIFICATIONS

Model	Type of Under-Carriage	Tube Diameter	Belt Width	Axle Width	Transport Height	Transport Length
1685-SP	Scissor Lift	10"	16"	12' 6"	11' 7"	91' 1"
1690-SP	Scissor Lift	10"	16"	12' 6"	12' 2"	96'
1695-SP	Scissor Lift	10"	16"	12' 6"	12' 9"	100' 11"

Table 1 - Specifications

Specifications subject to change without notice.

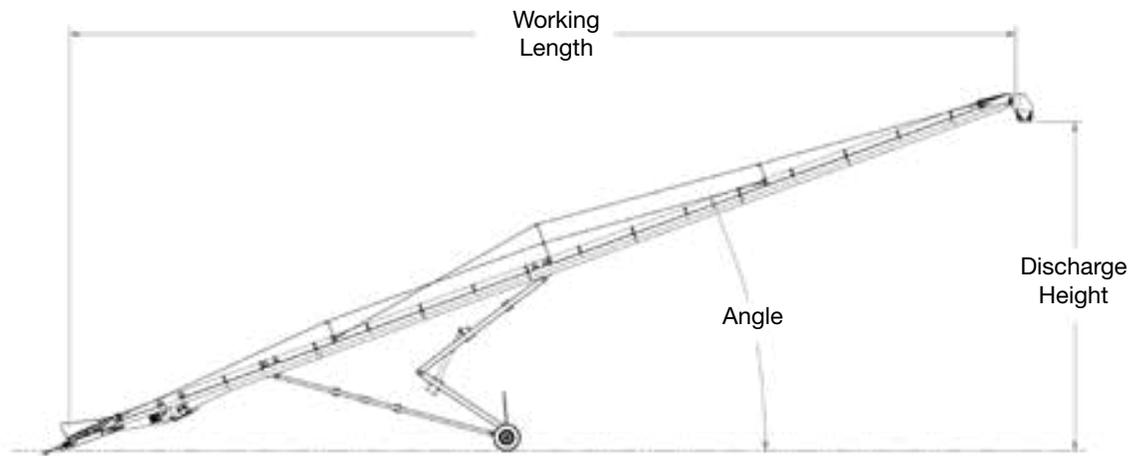


7.2 WORKING MEASUREMENTS

Model	15°		20°		25°		30°	
	Height	Length	Height	Length	Height	Length	Height	Length
1685-SP	21' 2"	84' 2"	28' 7"	82' 3"	35' 10"	79' 8"	42' 9"	76' 6"
1690-SP	22' 6"	89'	30' 4"	86' 11"	37' 11"	84' 2"	45' 3"	80' 10"
1695-SP	Measurements pending							

Table 2 - Working Measurements

Lengths measured from hopper roller to discharge roller.
Measurements subject to change without notice.



7.3 BOLT TORQUE

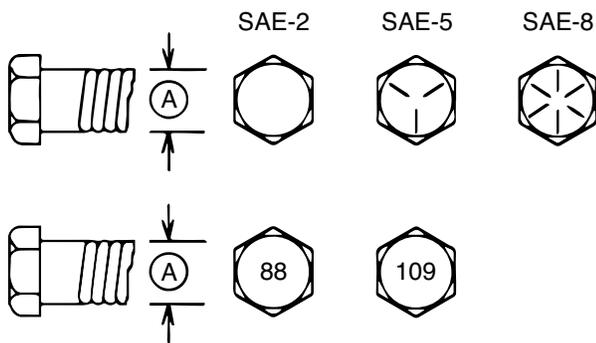
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

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

Table 3 - English Torque

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

Table 4 - 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.

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