

CONVEY-ALL[®]

OPERATOR'S MANUAL



TUBE CONVEYOR

1200 Series • 1600 Series • 2200 series

**PRODUCT REGISTRATION FORM
and INSPECTION REPORT**

CONVEY-ALL®

The Dealer must fill out this form, and be signed by both the Dealer and Buyer at the time of delivery. Scan or photograph the completed form (must be legible), and email it to: register@convey-all.com A copy of this form may also be mailed to: Box 760, 275 Hespler Ave, Winkler Manitoba R6W 4A8.

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

UNIT INSPECTION

- All Fasteners Tight
- Engine/Hydraulic Fluid Levels Checked
- Fuel is turned off at Engine
- V-Belt(s) are Tensioned and Rotate Freely
- Driveline/Motor Mount Secured to Machine
- 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 Sign are Clean
- All Lights are 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 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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Section 1: INTRODUCTION

Thank you for choosing a Convey-All® conveyor.

Convey-All® products are built by Meridian Manufacturing Inc. The equipment we design and manufacture meet the exacting standards of the agriculture industry.

Keep this manual for future reference. Call your dealer, distributor or Meridian if you need assistance, information, additional/replacement copies, or a digital copy of this document.

Information provided herein is of a descriptive nature. Meridian Manufacturing Inc. reserves the right to modify the machinery design and specifications 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 driver's seat, 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 when ordering parts, requesting service or asking for other information. The conveyor's serial number is located on the drive box or above the hopper.

Use 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

3 Big Reasons why safety is important to you:

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

The Safety Alert Symbol means:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

The Safety Alert Symbol identifies important safety messages on the conveyor and in this manual.

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

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



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



Indicates a hazardous situation, if not avoided, 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.



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



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



Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

2.1 SAFETY ORIENTATION

YOU are responsible for the SAFE operation and maintenance of your Convey-All® Paddle Belt 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 regular part of your safety program. Be certain that everyone who will work with 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 and 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 operator must be responsible, properly trained and physically able. They should be familiar with farm machinery in general.
- 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. 

- 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 personal protective equipment (PPE). 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 when 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.

- In order to provide a better view, certain images in this manual may show an assembly with safety guards removed.
 - Equipment should never be operated in this condition. All guards must be in place. If removal becomes necessary for repairs, replace the guard prior to use.
- This equipment is dangerous to children and persons unfamiliar with its operation.
- Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - DO NOT 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 and in good 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 must display the same decal(s) as the original parts.
- 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's parts department or from Meridian Manufacturing Inc.

2.4.1 Applying Decals:

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

2.5 DECAL LOCATION

The following illustration 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.

- Convey-All logo on sides of tube at discharge.
- Red reflectors: on discharge spout and discharge-side of axle
- Amber reflectors: on sides hopper, at less than 15 ft intervals along tube, and on hopper-side of axle.

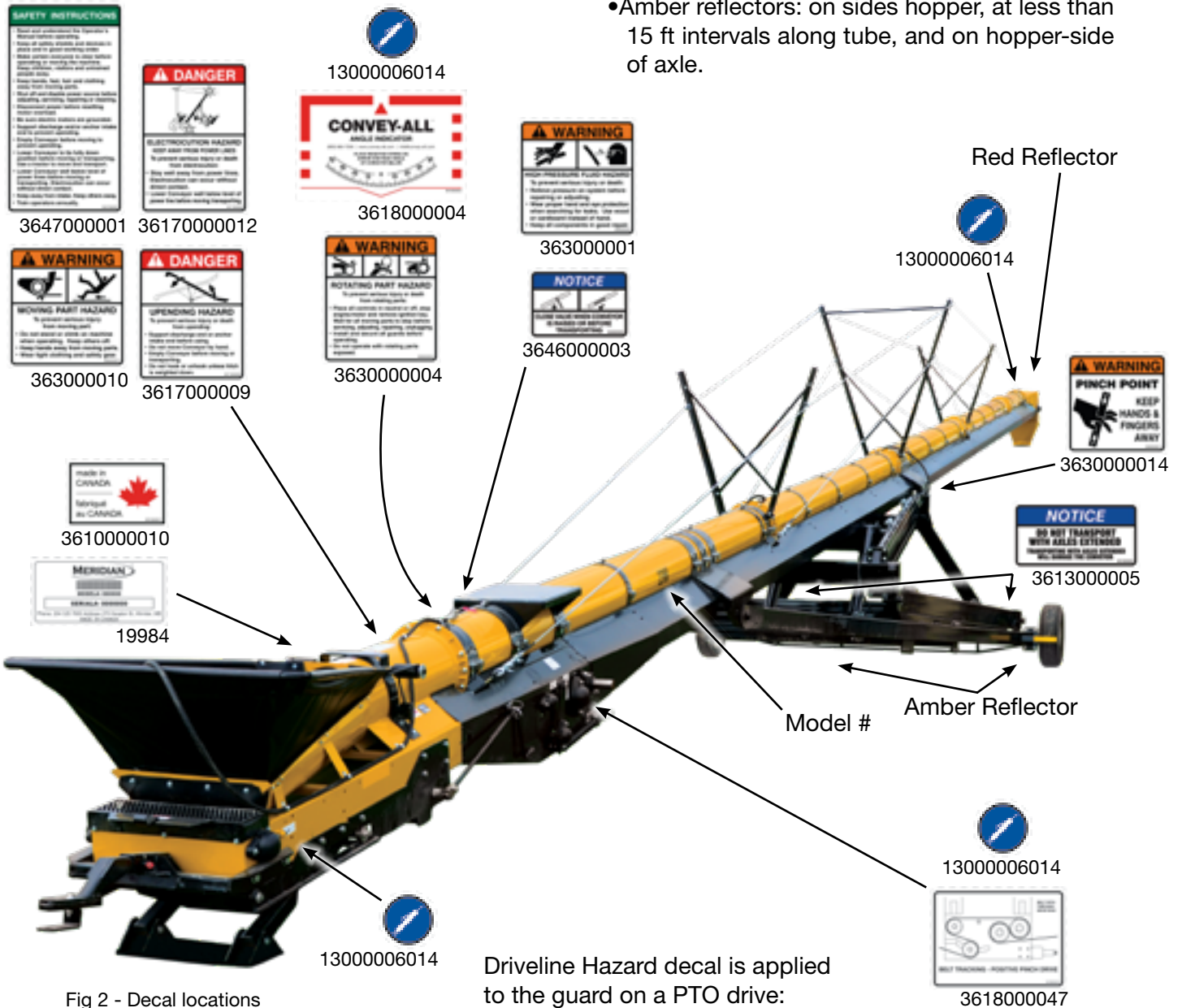
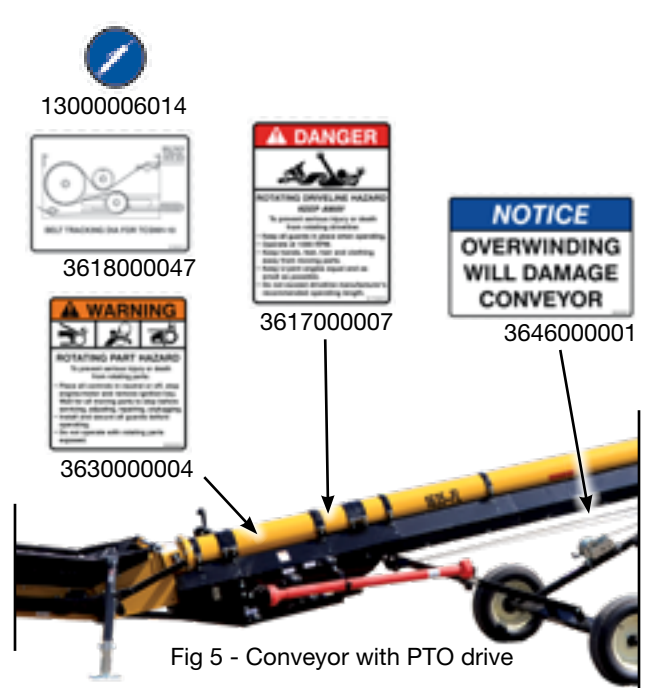
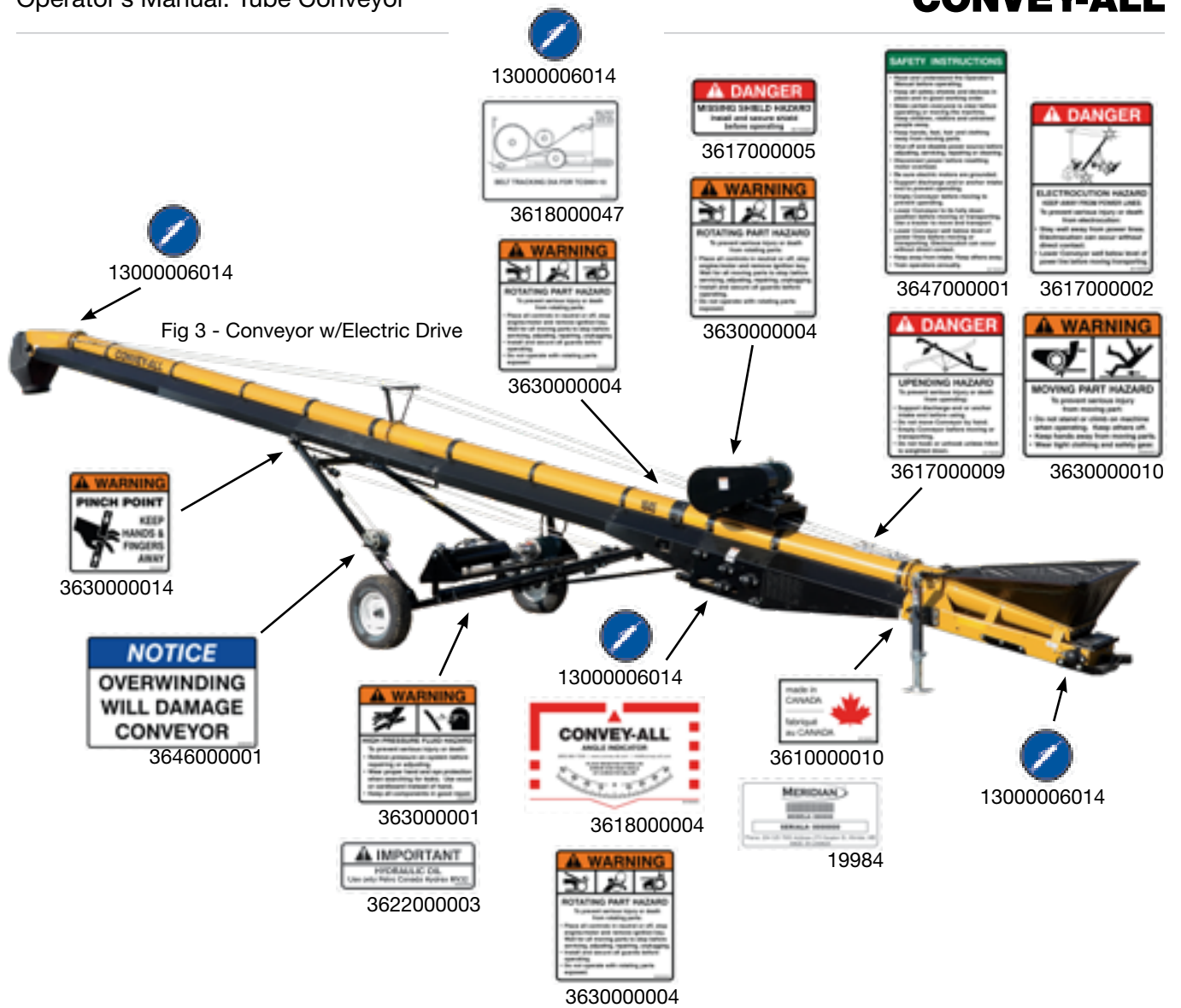


Fig 2 - Decal locations

Driveline Hazard decal is applied to the guard on a PTO drive:

Missing Shield decal is applied inside belt guards for electric drive:





2.6 WORK PREPARATION

- Never operate the conveyor until you have read this manual, and understand the information.
- Be familiar with the safety messages found on the decals around this unit.
- Personal protective equipment (PPE) include:
 - Hard hat
 - Eye protection
 - Protective shoes
 - Work gloves



They are recommended during installation, placement, operation, maintenance and removal 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 in the Operator's position exceeds 80 db.



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

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

Note:

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

- Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
- Operate only in daylight or good artificial light.
- Be sure machine is in a stable position, is adjusted and in good operating condition.
- Ensure that all safety 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 belts. Make the necessary repairs.
 - Always follow the maintenance instructions.

2.7 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 load or unload.
- Operate conveyor on level ground, free of debris.


2.8 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.


2.9 PTO SAFETY

- Never use a PTO driveline without a rotating shield in good working order.
- Ensure PTO shields turn freely on the driveline.
- PTO driveline must be securely attached at both ends before operating.
- Keep body, hair, and clothing away from rotating PTO driveline.
- Keep U-joint angles small and equal.
 - Do not exceed recommended operating length for PTO driveline.
- Before starting tractor, turn power to PTO to the off position (where applicable).




2.10 ELECTRICAL SAFETY

- Have only a qualified electrician supply power. All wiring should comply with the ANSI/NFPA 70 electrical requirements. 
- Make certain that the conveyor motor is properly grounded at the power source.
- Ensure that all electrical switches are in the OFF position before plugging the conveyor in.
- Turn machine OFF, shut down and lock out power supply (safety lock-out devices are available through your Convey-All dealer parts department) and wait for all moving parts to stop before assembling, servicing, adjusting, maintaining or repairing.
- Disconnect power before resetting any motor.
- Replace any damaged electrical plugs, cords, switches and components immediately.
- Do not work on the conveyor's electrical system unless the power cord is unplugged or the power supply is locked out.

2.11 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.

2.12 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 open flame.
 - Appliances such as a stove, furnace, or water heater use a pilot light which can create a spark. 
- No smoking when filling 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 operate engine with grass, leaves, dirt or other combustible materials in muffler area.
- Do not operate engine without muffler.

- Do not tamper with governor springs, governor links or other parts which may increase the governed engine speed.
- Do not strike flywheel with hard object or metal tool. This may cause it to shatter in operation.
- Keep cylinder fins/governor parts free of grass and other debris which can affect engine speed.

⚠ WARNING**HOT EQUIPMENT HAZARD**

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 muffler. The arrester must be maintained in effective working order by 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 the muffler periodically. Replace it when necessary.
 - If engine is equipped with a muffler deflector, inspect periodically. Replace with correct part.
- Do not check for spark, or crank engine with spark plug or spark plug wire removed.
- Do not run engine with air filter or its cover removed.

NOTICE**POSSIBLE ENGINE DAMAGE**



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

2.13 OPERATING SAFETY

- Anyone who will be operating this conveyor, or working around it, must read this manual. They must know operating, maintenance, safety info.
 - 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, 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, 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/rotating parts.
- Do not allow riders on the conveyor when moving or transporting it. 
- Keep working area clean and free of debris to prevent slipping/tripping. 
- Stay away from overhead obstructions and power lines during operation and transporting. Electrocutation can occur without direct contact.
- Do not operate the conveyor when any guards are removed.

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

2.14 HYDRAULIC SAFETY

- Always place hydraulic controls in neutral. Then relieve pressure in hydraulic system before maintaining or working on machine.
- Be 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 backstop instead of hand to isolate/identify a leak. 
- If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface. 

2.15 MAINTENANCE SAFETY

- Review Section 4: Service and Maintenance, 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 engine, and remove ignition key. Wait for all moving parts to stop before servicing, adjusting, repairing.
- Relieve pressure from hydraulic circuit before servicing.
- Before applying pressure to a hydraulic system, ensure all components are tight and that hoses and couplings are in good condition.
- Keep hands, feet, hair, and clothing away from all moving/rotating parts.
- Replace parts with genuine factory replacements parts to restore your equipment to original specifications.
 - Meridian Manufacturing Inc. will not be responsible for injuries or damages caused by using 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 work, install and secure all guards when maintenance work is completed.
- Replace damaged or not clearly visible decals.

**2.16 BATTERY SAFETY**

- Keep all sparks and flames away from battery, as the 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 conveyor for an extended period:
 - Remove the battery.
 - Be sure it is fully charged.
 - Store it inside.
 - Do not sit battery on a cold, concrete floor.
- Before using the battery, after it has been in storage, be sure it is charged.



2.17 WORKPLACE HAZARD AREA

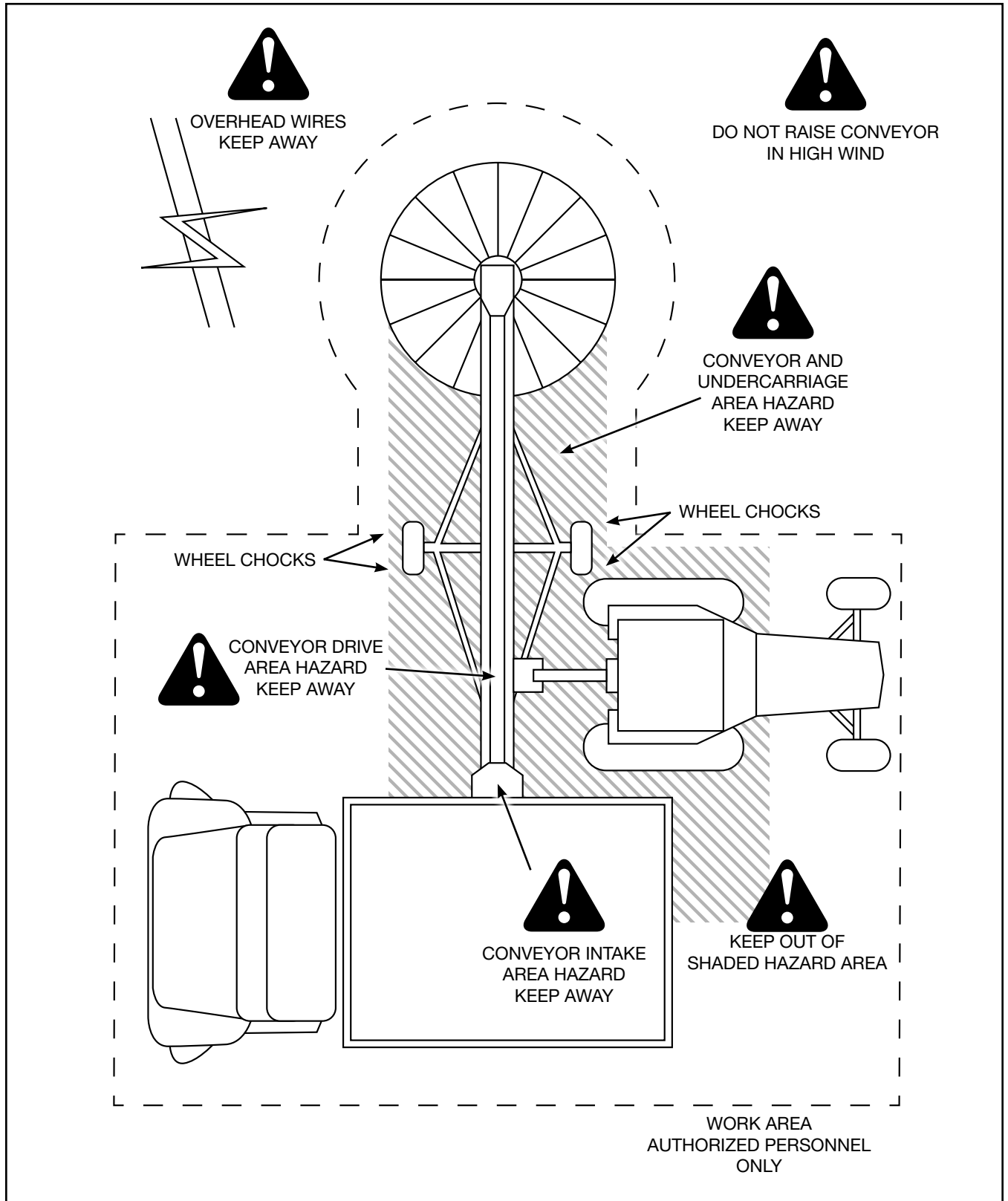


Fig 6 - Workplace hazard area

2.18 TRANSPORT SAFETY

- The conveyor belt must be empty before raising or lowering the tube.
- Always transport conveyor in collapsed position.
- Ensure all lights, reflectors, other lighting requirements are installed and in good condition.
- Never allow riders on the conveyor.
- Comply with all local laws governing safety and transporting 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 driving near or crossing roadways.

2.19 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 battery on a 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 machinery.

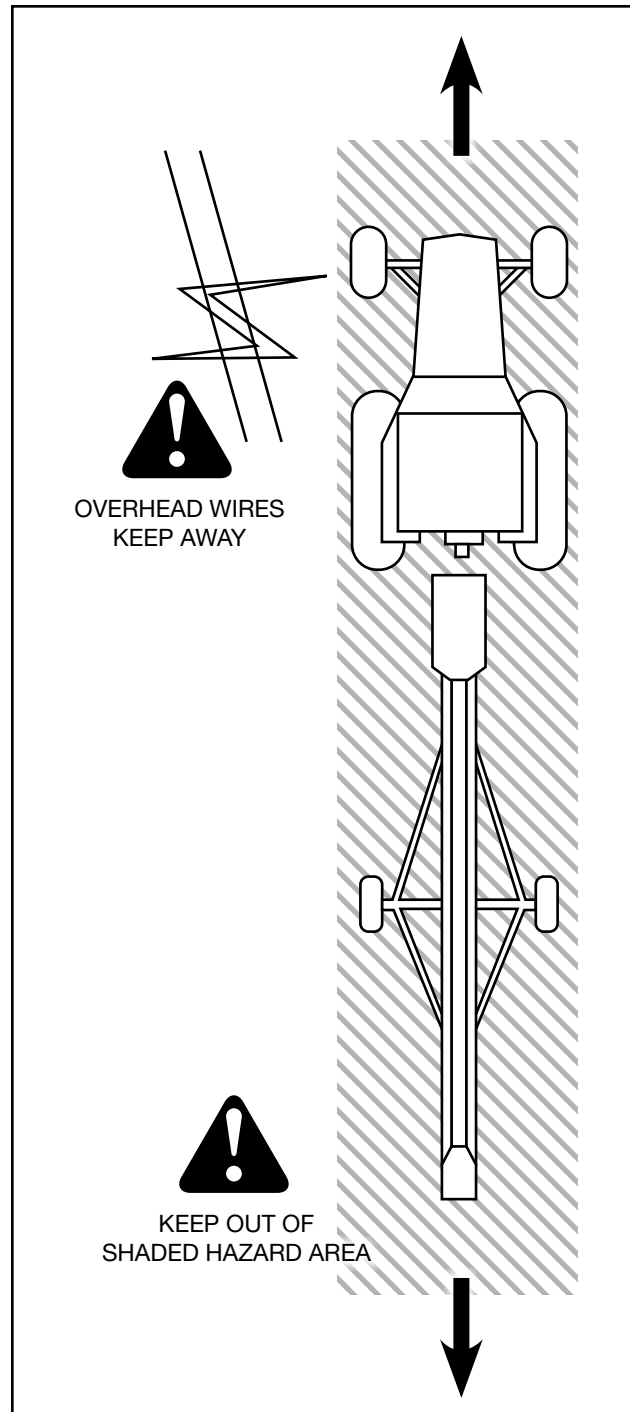


Fig 7 - Transporting hazard area

Section 3: OPERATION

WARNING

- Read and understand the Operator's Manual, and all safety decals, before using.
- Stop the engine/motor. Place all controls in neutral, remove ignition key and wait for all moving parts to stop before servicing, adjusting, or repairing or unplugging.
- Clear the area of bystanders, especially children, before starting.
- Keep working area clean and free of debris to prevent slipping or tripping.
- Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
- Do not allow riders on the conveyor when driving mover kit.
- Stay away from overhead obstructions and power lines during operation. Electrocutation can occur without direct contact.
- Do not operate conveyor with guards removed.
- Chock wheels of conveyor before starting.
- Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear area before restarting.
- Establish a lock-out, tag-out policy for the work site. Be sure all personnel are trained in and follow all procedures. Lock-out tag-out all power sources before servicing the unit.

The Convey-All® conveyor has many features incorporated into it as a result of suggestions made by customers like you.

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

It is the responsibility of the owner and operators to read this manual and to train all personnel before they start working with the machine. By following recommended procedure, a safe working environment is provided for the operator, co-workers and bystanders in the area around the work site.

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

3.1 MACHINE COMPONENTS

The conveyor belt can be powered by a PTO driveline, electric, hydraulic, gas or diesel engine. The drive system can be situated above the drive box on the tube, on the undercarriage, or in a top-end drive (TED).

A hand-operated winch or hydraulic cylinder(s) will be used to raise or lower the tube. A tractor, or a wet kit may supply the hydraulic system.

Components may vary, and their positions may change depending on the options contained on the conveyor.

Listed are of the main components and some of the options available on the various units.

* Positions may vary depending on the model.

* Not all components appear on all conveyors:

- a. Main Conveyor Tube
- b. Standard Intake Hopper
- c. Swing-Out Hopper
- d. Discharge Spout
- e. A-Frame Undercarriage
- f. Scissor Lift Undercarriage
- g. Swing-Out Winch
- h. Hopper Winch
- i. Tube Lift Winch
- j. Drive Box with Tension Springs
- k. Engine/Motor Mount
- l. Top End Drive (TED) (Optional)
- m. Swing-Out Conveyor (Optional)

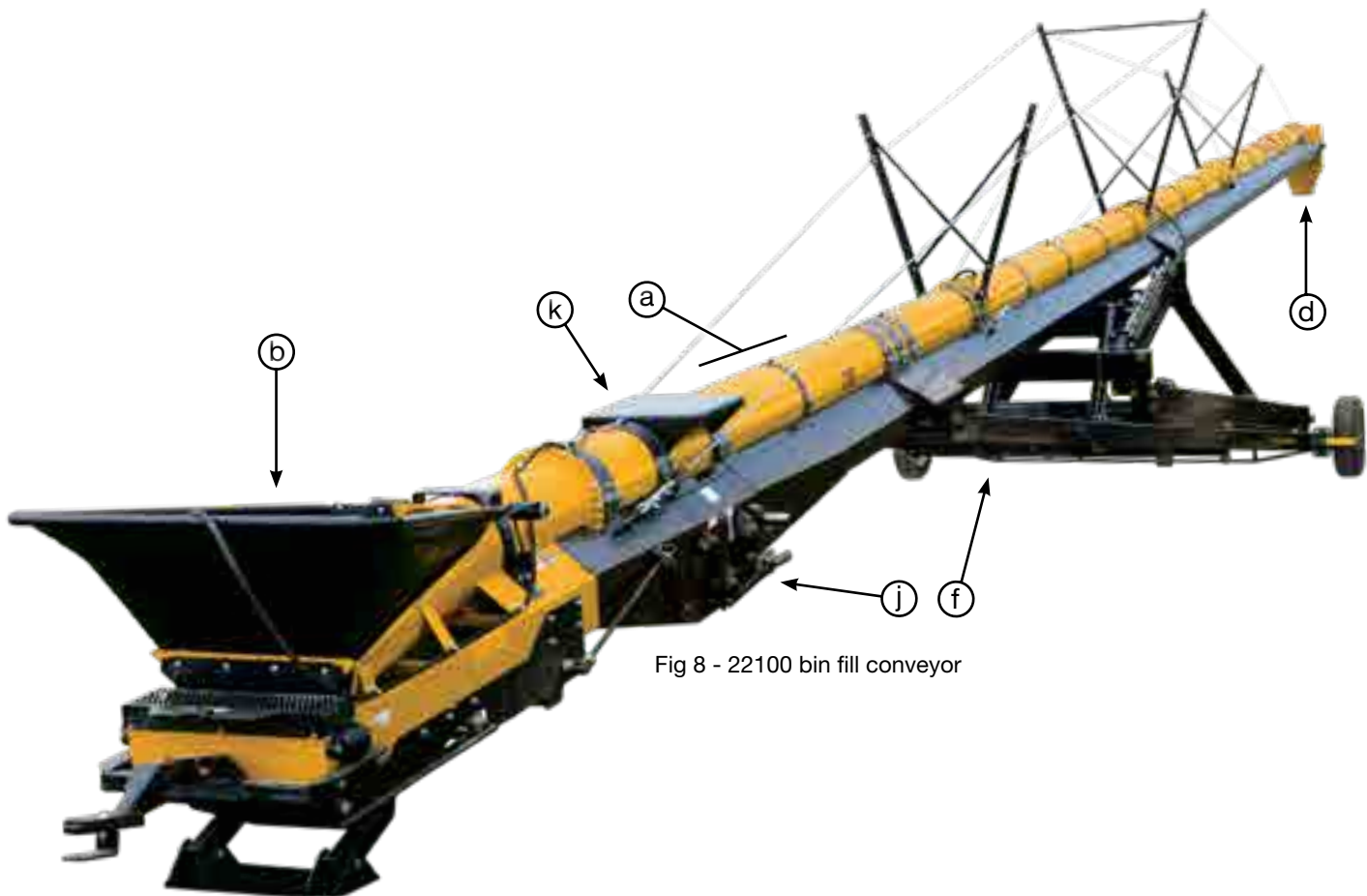


Fig 8 - 22100 bin fill conveyor

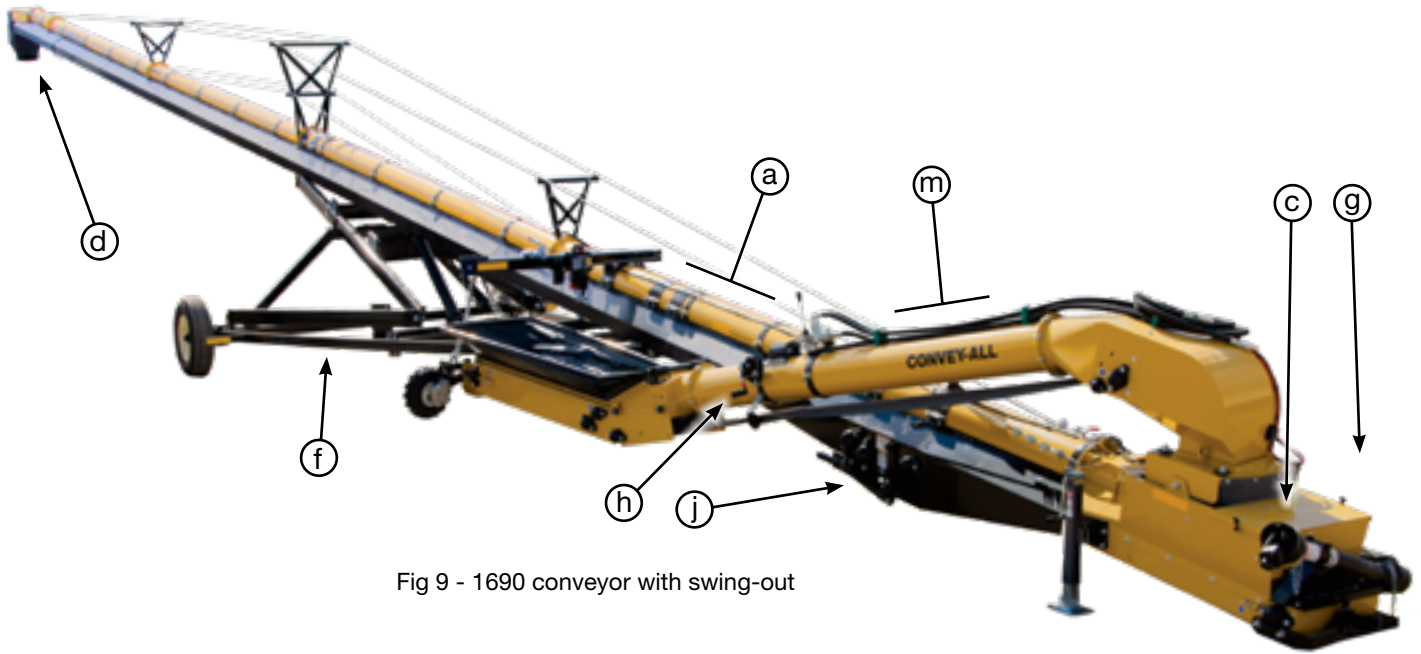


Fig 9 - 1690 conveyor with swing-out



Fig 10 - 1635-TED conveyor

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 motor/engine manufacturer's manual for more detailed information.

Gas Engine (Optional):

For units with a gas engine, below are a description of the controls:

Ignition Switch:

This switch controls the electrical power to the engine electrical system.

Choke:

Close the choke valve for starting when the engine is cold. Slide, to open the choke as the engine warms. ALWAYS open the choke fully when operating the conveyor belt.

Throttle:

This lever controls engine RPM. Engine should run slightly more than idle when engaging the drive belt(s).

IMPORTANT:

Do not engage clutch when at full RPM.

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

Engine Position:

This lever sets the position of the engine base. Move the lever up to slide the engine base towards the drive pulley, disengaging the belt. Move lever downward to engage drive belt.

Always start or stop engine with drive belt disengaged. Set the drive belt tension so it does not slip during operation.

Table 1 - Power Requirements

MODEL	ELECTRIC HP	GAS HP	DIESEL DRIVE	BELT WIDTH	TUBE DIAMETER
1235	7.5	13	n/a	12	10
1235-TED	5	n/a	n/a	12	10
1240-TED	5	n/a	n/a	12	10
1245	7.5	13	n/a	12	10
1235-FL	7.5	13	n/a	12	10
1245-FL	7.5	13	n/a	12	10
1635	7.5	27	n/a	16	10
1645	10	27	n/a	16	10
1635-FL	15	25	n/a	16	10
1645-FL	15	25	n/a	16	10
1655	15	n/a	n/a	16	10
1670	20	n/a	40	16	10
1675	20	n/a	40	16	10
1685	20	n/a	40	16	10
1690	20	n/a	40	16	10
16100	20	n/a	40	16	10
2235	15	n/a	n/a	22	14
2245	15	n/a	n/a	22	14
2265	25	n/a	n/a	22	14
2270	30	n/a	n/a	22	14
2275	30	n/a	n/a	22	14
2285	40	n/a	n/a	22	14
2290	40	n/a	n/a	22	14
22100	40	n/a	n/a	22	14
22110	50	n/a	n/a	22	14
22120	50	n/a	n/a	22	14

Fuel Shut-Off Switch:

This switch controls the flow of fuel to the engine.

- Open the valve and start the flow of fuel, to run the engine.
- Move the switch left to close the valve.

ALWAYS close the valve for transportation.

Electric Motor (Optional):

Conveyors with the electric power option rely on the dealer and customer to select a motor with the appropriate horsepower.

- Hire a licensed electrician to provide power.

A variety of switches can be used.



Fig 11 - Electric motor

Hydraulic Wet Kit (Optional):

This option includes an electric motor to drive the hydraulics, to raise and lower the conveyor tube.

It could also be used to drive the conveyor on a rail. This creates a self-contained unit.



Fig 12 - Hydraulics wet kit

Hydraulic Motor (Optional):

Position the power unit next to the conveyor, and connect hydraulic hoses to the couplers.



Fig 13 - Hydraulic motor

Top End Drive (Optional):

Electric and hydraulic drives are available on top-end drive (TED) units.

Chevron Belt with Alligator® Lacing:

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



Fig 14 - Top end drive (TED)

PTO - End or Side Driveline (Optional):**⚠ DANGER****ENTANGLEMENT HAZARD**

Always cover driveline yokes and shafts with guards. Keep hands, body parts, hair and clothing away from moving parts.

The PTO driveline is connected to the conveyor's drive box.

IMPORTANT:

Do not move conveyor with PTO driveline attached. System is not designed with sufficient clearance for turning.

Note:

Position tractor to keep the U-Joint angles equal and as small as possible. 27° or less is recommended.

All PTO models are designed with a shear bolt in the driveline to protect the drive system components from an unexpected overload.

- If a bolt shears, remove the broken ends and replace with genuine Convey-All® replacement part.

Determine the cause of the overload and correct before resuming work.

Conveyor Tube Lift Winch:

Conveyors that are less than 45 feet long may be designed with a manual winch and cable pulley system to raise and lower the tube.

The conveyor can be set at any angle between 12° and 40° when operating.

Note:

Do not position at more than 45°



Fig 15 - End PTO



Fig 16 - Side PTO



Fig 17 - Tube lift winch

NOTICE**EQUIPMENT DAMAGE HAZARD**

Do Not overwind winch.
Damage to the undercarriage may occur.

Ball Valve to Tube Lift Cylinder(s):

This valve controls the oil flow to hydraulic cylinder that raises/lowers the tube.

- Open the valve to raise and lower the tube.
- Turn handle perpendicular to close the valve.

IMPORTANT:

Hydraulic valve must be fully opened prior to lifting/lowering conveyor.

Valve must be closed fully when the conveyor is to remain in fixed position, this will prevent ram from creeping downward.

Canvas Hopper:

The hopper is designed with a spring-loaded canvas frame. This will allow the truck box to push the hopper edge down.

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

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

⚠ WARNING**UNEXPECTED MOVEMENT HAZARD**

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

Hopper Winch (Optional):

This winch is located on the side just above the hopper. It is used to lower the canvas frame.

Railcar Hopper (Optional):

This hopper has a very low profile to allow for positioning under a railroad car hopper. A manual winch is used to raise/lower the flaps.



Fig 18 - Hydraulic valve to conveyor tube cylinders



Fig 19 - Collapsible canvas hopper



Fig 20 - Hopper winch



Fig 21 - Railcar hopper

1200 Series Goose Neck Transition (Optional):

Hold-down wheels are used to in this type of transition, between the hopper and incline portion of the machine.

A special undercarriage and rollers are used for this model.

It is necessary to regularly check the hold-down wheels for wear on their rubber wrap. Refer to Section 4.2.1, page 4-6

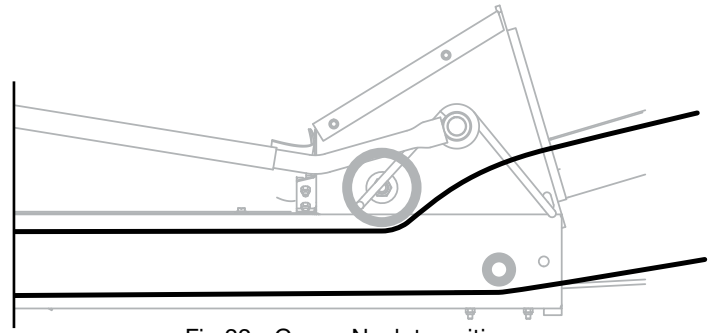


Fig 22 - Goose Neck transition

S-Neck Transition (Optional):

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

A special undercarriage and rollers are used for this model.

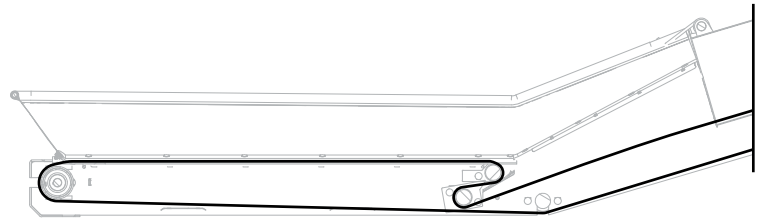


Fig 23 - S-Neck transition

Spring Tension Drive (S-Drive) Box:

Used on conveyors 52.5' and shorter. This drive box has a large 10" Drive Roller. The 5" pinch roller gives more belt-to-drive roller contact.

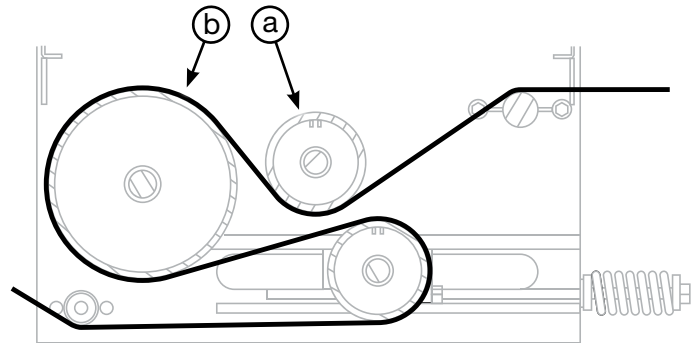


Fig 24 - Drive box; 5" pinch roller (a), 10" drive roller (b)

Positive Pinch Drive Box:

Used on conveyors 55' and longer. This drive box uses the sliding Pinch Roller to maintain positive pressure on the Drive Roller. As more product is loaded, the Pinch Roller automatically increases its pressure on the Drive Roller.

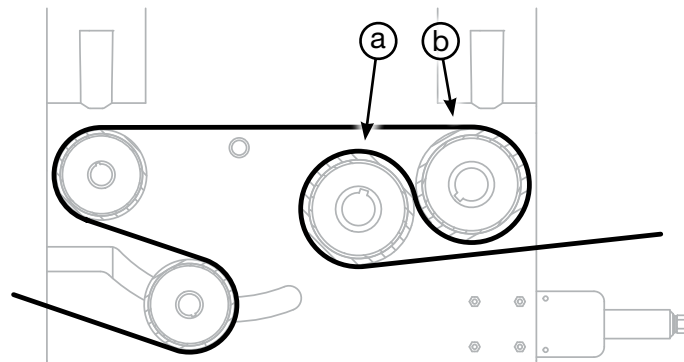


Fig 25 - Drive box, pinch roller (a) & drive roller (b)

Discharge Spout:

The discharge spout may be plastic or metal. It is designed with six settings to allow it to be angled.

- Angle the spout back if product needs to be directed further out, rather than straight down.
- Remove the brackets and flip the spout back to throw the product as far as possible. This works well when making piles or working inside buildings.



Fig 26 - Discharge spout

Discharge w/Electric Actuator (Optional):

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



Fig 27 - Discharge spout with electric actuator

Swing-Out Conveyor (Optional):

85 feet and longer conveyors may be equipped with a swing-out conveyor. Refer to Section 3.3



Fig 28 - Swing-out conveyor

NOTICE

AXLE FAILURE HAZARD
Always retract axles for transportation.

Axle Adjustment (Optional).

2200 series conveyors, 85 feet and longer, may be equipped with an adjustable axle.

- The undercarriage is designed with an axle that is 12 feet wide. This option gives two extra settings; 14 feet and 16 feet.
- Widen the wheels when the frame is positioned at a steep angle.
- Retract when preparing to move or transport.



Fig 29 - Axle adjustment

A-Frame Undercarriage:

This type of undercarriage uses a manual winch to raise and lower the tube.



Fig 30 - A-Frame undercarriage

Scissor Lift Undercarriage:

This undercarriage uses hydraulic cylinders to raise and lower the tube.



Fig 31 - Scissor lift undercarriage

Cable Bridging:

The cable bridging on all conveyors needs to be adjusted periodically to ensure tube is straight vertically and horizontally.

Refer to Section 4.2.4

Working Lights Packages (Optional):

The conveyor may be equipped with working lights. They are positioned to illuminate the hopper and discharge ends of the machine.



Fig 32 - Working lights

Transport Light Packages (Optional):

On certain models, a 12 volt DC transport light package is available. The wiring harness plugs into the tow vehicle.

Angle of Operation Indicator:

On the drive box, is a decal to assist in calculating the operating angle.

- Hold a weighted string against the arrow (above the Convey-All® logo).
- Read, on the graph, where the string lies.



36-1800-0004



Fig 33 - Decals on drive box

3.3 SWING-OUT CONVEYOR (OPTIONAL)

The swing-out conveyor is an extension of the main tube conveyor. The discharge of the swing-out is attached above the hopper on the main conveyor. A hoist is used to raise the swing-out hopper for transport.

The swing-out can swivel 270°.

The swing-out conveyor is available as:

- A manual drive unit, where it is pushed around the main conveyor.
- A hydraulic drive unit.
- An Auger Jogger electric drive unit.

The 1600 Swing-Out hangs from it's hoist at the front of the hopper.

The 2200 Swing-Out hangs from the transition.

Hopper:

The swing-out is designed with a spring-loaded canvas frame.

- The canvas frame can be lowered or raised with a manual winch.

Swing-Out Wheels:

Wheels are situated at the front of the hopper, to roll the swing-out around the main conveyor. The swing-out may be equipped as followed:

- Manual drive have no drive motors on the wheels.
- Hydraulic drive mover kit, use a manual valve or remote control to drive it.
- Auger Jogger electrical drive mover kit, have buttons on the control box. It also comes with a key fob remote control.



Fig 34 - Swing-Out conveyor



Fig 35 - Hopper winch



Fig 36 - Hopper wheels



Fig 37 - Swing-Out mover kit

Discharge Spout:

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



Fig 38 - Swing-out discharge to main conveyor hopper

Swing-Out Winch:

- Manual winch (if equipped), it is located on the side of the main conveyor hopper. A cable is attached by a hook to the end of the hopper. It is used to raise and lower the swing-out.
- Hydraulic winch (if equipped), sits on top of the tube, above the drive box. Use the hydraulic valve on the swing-out to raise/lower the swing-out.
- Auger Jogger electric winch (if equipped) will sit on



Fig 39 - Swing-out winch

Remove the winch cable hook (a), from the end of the swing-out hopper, when the swing-out is sitting on the ground. Then, the swing-out can be moved into position.

Transport Hooks:

There are 2 hooks at the end of short chains (b).

When the swing-out is raised off the ground, with the winch. 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.

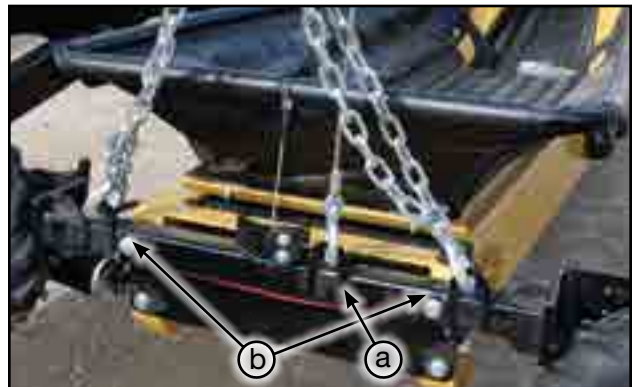


Fig 40 - 1600 Series: Transport hooks (b), Winch hook (a)

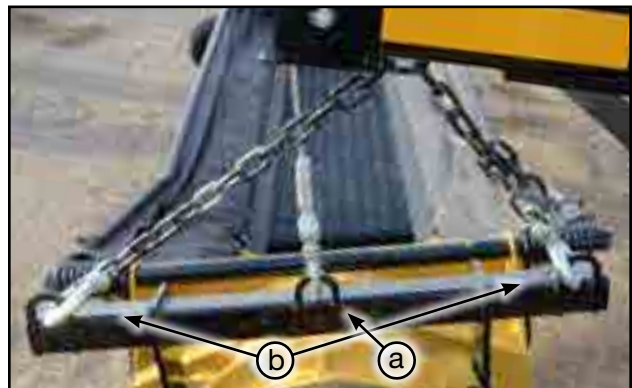


Fig 41 - 2200 series: Transport hooks (b), Winch hook (a)

Hydraulic Drive Motor:

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



Fig 42 - Hydraulic motor

Hydraulic Valve Bank:

A set of 1, 2 or 3 hydraulic valves (depending on options) located above the hopper of the swing-out, operates the following functions:

- (c) Conveyor belt control. The belt rotates in only one direction.
- (d) Drives the wheels, moving the swing-out around the main conveyor.
- (e) Raises/Lowers the swing-out's mover kit wheels, lifting the hopper off the ground.

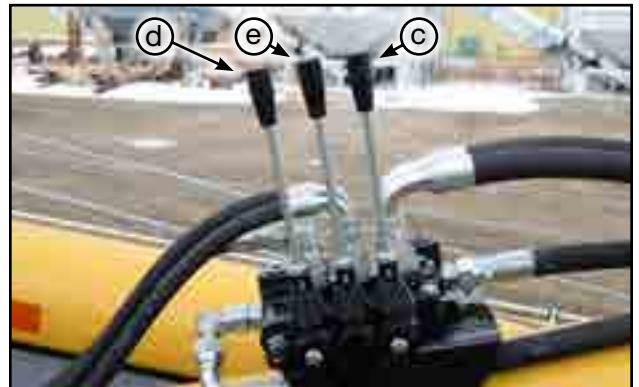


Fig 43 - Hydraulic valves

Valve Adjustments:

The hydraulics on every tractor is set at a different flow rate or pressure. Therefore, the mover kit valve can be adjusted to run at the desired speed for the operator.

- (f) The set screw with lock nut is the speed adjustment for the mover kit. There is another set screw on the back side of the valve bank, which must also be adjusted.
 - Twist set screw IN to slow the wheels
 - Twist it OUT to speed up the wheels
- (g) **IMPORTANT:** The set screw, for the conveyor belt valve, needs no adjustment. It has been preset by the factory.

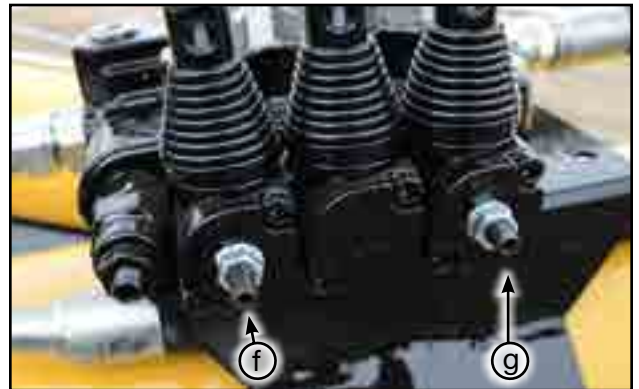


Fig 44 - Valve adjustment



Fig 45 - Valve adjustment, rear of bank

Auger Jogger Electric Mover Kit (Optional):

On the swing-out tube is the control box to operate the wheels, which moves the swing-out around the main conveyor.



Fig 46 - Electric controls for mover kit

There are buttons on the box to control the mover wheels.



Fig 47 - Auger Jogger mover kit

A key fob is also included with the unit.



Fig 48 - Key fob for remote controlled actions

Auger Jogger Electric Winch (Optional):

The electric winch is attached to the hoist arm.



Fig 49 - Electric winch

3.4 MACHINE BREAK-IN

There is no operational restrictions on the conveyor when used for the first time.

The conveyor belt alignment is set at the factory, to track correctly without carrying a load.

Before Starting Work:

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

After Operating or Transporting for 1/2 hour:

3. Re-torque all the wheel bolts, and fasteners.
4. Check fuel, engine oil and hydraulic oil levels.
5. During the conveyors first few minutes of operation, check belt tension and alignment to ensure the factory preset does not vary under loaded conditions.
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 the condition of all hydraulic lines, hoses, connections and electrical cables. Repair or replace any damaged system components.
8. Check that all guards are installed and function as intended.

After Operating For 5 Hours and 10 Hours:

Repeat steps 1 through 8 above.

Service and maintain the conveyor as defined in Section 4: Service and Maintenance.

3.5 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 (if equipped) 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 all drive belts and conveyor belt are properly tensioned and aligned. Ensure they are not frayed or damaged. Refer to the Maintenance Section.
6. Be sure conveyor wheels are chocked.
7. Check that discharge and intake hopper 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.

3.6 ATTACHING TO TOW VEHICLE**⚠ DANGER****ELECTROCUTION HAZARD**

Ensure enough clearance from overhead obstructions, power lines or other equipment.

1. Clear the working area of bystanders, especially small children.
2. Ensure that there is sufficient room and clearance to move the conveyor.

NOTICE**PTO DAMAGE LIKELY**

Do not move the conveyor with PTO driveline attached to the tractor.

3. If the conveyor is in a working position:
 - Move the conveyor away from the bin and into the open.
 - Lower the tube to it's collapsed position.

NOTICE**UPENDING HAZARD**

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

4. Raise the hopper with the jack.
 - Insert the drawbar.
5. Align the tow vehicle's hitch with the drawbar of the conveyor while backing up.
6. Set park brake before dismounting tow vehicle.
7. Install the pin with its retainer clip, to connect the tow vehicle.
 - Secure the safety chain.

8. Remove and store the jack.
9. Close the hydraulic valves.
10. Turn off engine or disconnect the electric motor.

3.6.1 Units with Hydraulic Lift and/or Hitch:

1. Use a clean rag or paper towel to clean the dirt from around the coupler on the hose end and on the tractor.
2. Connect the hose to the tractor coupler. Be sure the coupler is securely seated.
 - Route the hose to prevent pinching rubbing or binding. Allow enough slack for raising and lowering. Keep the hose away from moving parts.
3. Open the valve in the hydraulic line and use the controls in the tractor to raise or lower the conveyor.
4. Close the valve(s) when the conveyor is in its collapsed position.
5. Before transporting, refer to Section 3.10.



Fig 50 - Hydraulic tube lift ball valve

3.7 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 3.10

⚠ DANGER

ELECTROCUTION HAZARD

Ensure enough clearance from overhead obstructions, power lines or other equipment.

NOTICE

HIGH WIND HAZARD

Do not operate or leave conveyor fully raised, in high winds. It may blow over, damaging structures and equipment.

3. Raise the conveyor into position, and lower the hopper to the ground.
 - Use the tractor hydraulics, self-contained hydraulics, or manual winch.

IMPORTANT:

To prevent damage to tube and belt, do not rest it on any structure.

4. Place chocks around each wheel.

⚠ CAUTION

SAFETY HAZARD

Remove drawbar from conveyor to prevent interference and clear a tripping hazard.

5. Remove and store the drawbar, if not needed.

⚠ CAUTION

UPENDING HAZARD

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

6. Stake or weigh down the hopper end to prevent upending when the machine is emptying.
7. Disconnect hydraulic hose and close hydraulic lift valve (if equipped) to lock unit in position.

NOTICE

EQUIPMENT DAMAGE LIKELY

Remove Transport Pins from the Hydraulic Hitch before operation.

8. If equipped with Hydraulic Hitch:
 - The two transport pins must be removed from the optional hydraulic hitch before the conveyor is operated.
 - Extensive damage to the equipment may occur if they are left in place.



Fig 51 - Transport pins on hydraulic hitch

3.8 OPERATING ON SITE

When operating the conveyor, follow this procedure:

1. Clear the area of bystanders, especially small children, before starting.
 - Should anyone enter this area, stop the machine immediately.
2. Review the Pre-Operation Checklist before starting. Refer to Section 3.5
3. Check that all guards are in place and functioning.

3.8.1 Attach PTO driveline (if equipped):

4. Back the tractor to 10 to 12 feet from conveyor, then prepare the equipment before connection.
 - Clean the splines on the shaft and in the yoke.
5. Bring the Constant Velocity PTO shaft in line with the tractor's coupler.
6. Drive the tractor closer, to within 7 feet.
 - Connect the PTO yoke from the conveyor.

NOTICE

PTO DAMAGE LIKELY

Do not move the conveyor with PTO driveline attached to the tractor.

IMPORTANT:

The CV PTO shaft must not exceed 84 inches (213 cm) in overall length, as stated in manufacturer's documentation.

Note:

Position the tractor to keep U-Joint angles equal and as small as possible. 27° or less is recommended.

7. Place chocks against tractor tires, set park brake.
8. Check that the guard rotates freely and the driveline telescopes easily.
 - If not, clean, lubricate or repair as required before installing.
9. Depress pin on yoke to retract lock pin. Slide the yoke over the tractor shaft. Stop when the lock pin clicks into position in the groove.
10. Pull on the yoke to be sure it is locked into shaft.
11. Check that the yokes on the driveline are secured to their respective shafts.



Fig 52 - End PTO



Fig 53 - Tractor connections

3.8.2 Starting Conveyor:**PTO Drive Model:**

1. Place all controls in neutral.
2. Start tractor and run at low idle.
3. Slowly engage the PTO clutch.
4. Increase engine speed to have a PTO speed of 300 or 350 RPM depending on model.
5. Start the flow of product and unload into the conveyor hopper.

Gas Engine Model:

1. Disengage belt drive.
2. Move throttle to its idle position.
3. Close the choke if the engine is cold.
4. Turn the ignition key clockwise to start the engine.
 - Release the key when the engine starts.
5. Run for 2-3 minutes to allow the engine to warm.
6. Engage the belt drive when the engine is running just above idle.

Note:

Do not engage drive belt when engine is at full RPM.

7. Now, increase engine speed to full throttle.
8. Begin to unload product into the conveyor hopper.

Electric Motor Model:

1. **IMPORTANT:** Have licenced electrician provide power to the motor.
2. Plug the power cord, from master panel, into conveyor motor.
3. Turn the power on at the power source.
4. Turn conveyor motor on.
5. Start to unload product into the hopper.

Hydraulic Motor Model:

1. Clean the dirt from around the coupler on the hose end and on the tractor.
2. Connect the hose to the tractor coupler. Be sure the coupler is securely seated.
3. Start hydraulic power source.
4. Turn on conveyor hydraulic system.
5. Start the flow of product and unload into the conveyor hopper.



Fig 54 - Unload into hopper

3.8.3 Stopping Conveyor:**PTO model:**

1. Stop unloading.
 - Wait for the conveyor belt to empty.
2. Reduce tractor engine speed to low idle.
3. Disengage PTO clutch.
4. Shut off tractor engine and remove ignition key.

Gas Engine Model:

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

Electric Motor Model:

1. Stop unloading.
 - Wait for the conveyor belt to empty.
2. Turn the power off on the conveyor.
3. Turn the power off at the main panel.
 - Unplug the power cord.

Hydraulic Motor Model:

1. Stop unloading.
 - Wait for the conveyor belt to empty.
2. Use the hydraulic valve to stop the conveyor belt.
3. Turn off the power source.

3.8.4 Emergency Stopping:

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

See to the emergency.

Correct the situation before resuming work.

3.8.5 Restarting after Emergency Stop:

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

Remove as much product from the hopper as possible.

Since the start-up torque loads are much higher than normal when the belt is full, restart at a low RPM (if possible).

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

3.8.6 Unplugging:

In unusual moisture, crop or product conditions, the machine can become plugged. When unplugging, follow this procedure:

1. Place all controls in neutral or off, stop the engine/motor and disable power source.
 - Wait for all belts to stop rotating.
2. Lock-out, tag-out the controls.
3. Remove as much product as possible from the discharge and hopper areas.
4. Reposition the conveyor if the discharge area plugs due to a lack of clearance.
5. Restart unit in similar manner as after an emergency stop. Refer to Section 3.8.4

**3.8.7 1200 Series Goose Neck (TCGN)
with Hold-Down Wheels:**

In situations where the conveyor belt jams or is overtightened, the belt can come out from under the hold-down wheels at the transition point.

To correct situation:

1. Run until machine is empty or remove all product from the belt.
2. Place all controls in neutral or off, stop the engine/motor and disable power source.
 - Wait for all belts to stop rotating.
3. Loosen the conveyor belt into its loosest position.
4. Remove the transition cover.
5. Push the conveyor belt back underneath the hold-down wheels.
6. Reset the belt tension and alignment.
Refer to Section 4.3.1 and 4.3.2
7. Install and secure transition cover.



Fig 55 - Transition cover



Fig 56 - Hold-down wheel location

3.9 OPERATING HINTS

- Keep the hopper full for maximum capacity. Most efficient results will be obtained when flow of incoming product is directed at the top of the hopper (closer to the tube).
- 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 product on the belting. This will increase the wear. Try to run only when moving product.
- Do not move the machine by hand. Always use a tractor.
- Do not support the discharge end directly on the truck, trailer or storage facility.
- Stake the hopper or weigh it down to prevent upending.
- For better performance, use a transfer or drive-over conveyor, to move product from the storage facility or truck to the bin fill conveyor's hopper.
- The hopper is designed with flashing to seal the junction of the belt with the sides of the hopper. It must be kept in good condition to prevent product 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 30° 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 30°.

Note:

The lower the angle,
the greater the capacity.

- On the PTO drive models, align the tractor axis with the conveyor input shaft to minimize the angles of the universal joints on the driveline.



Fig 57 - Drive-over feeding bin fill conveyor

3.10 TRANSPORTATION

Convey-All® conveyors are designed to be easily and conveniently moved from place to place.

When transporting the conveyor, follow this procedure:

NOTICE

PTO DAMAGE LIKELY

Do not move the conveyor with PTO driveline attached to the tractor.

1. Disconnect PTO driveline (if equipped) from the tractor.
 - Store in its cradle on the conveyor frame.
2. Refer to Section 3.6: Attaching to Tow Vehicle.
3. Ensure the conveyor is ready for transport:
 - It is in fully collapsed position.
 - Swing-out (if equipped) is stowed securely.
 - Hydraulic lines (if equipped) are closed.
 - Drawbar is attached using anchor pin, retainer and safety chain.
4. Be sure all bystanders are clear of the machine.
5. Hitch conveyor to the tow vehicle.
 - Secure the safety chains.
6. Remove chocks from around the wheels.
7. Adjustable axles (if equipped):
 - Move them into their narrowest position.
8. Hydraulic hitch (if equipped):
 - Insert the two transport pins to lock the hitch in place.
9. Transport lights (if equipped):
 - Connect wiring harness to towing vehicle.
 - Secure across the hitch with clips, zip ties or tape.
10. Raise the jack.
 - Remove and store it.
11. 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.
12. Do not allow riders on the conveyor.
13. Slowly pull away from the working area.
 - Be sure everything is connected, and nothing is hanging loose.
14. 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.
15. Never travel across slopes of more than 20°. It is better to go straight up and down.
16. It is not recommended that the conveyor be transported faster than 80km/h (50mph).
17. During periods of limited visibility, use pilot vehicles or add extra lights to the conveyor.
18. Always use hazard flashers on the tow vehicle when transporting unless prohibited by law.



Fig 58 - Transport pins on hydraulic hitch

3.11 STORAGE

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

Repair or replace any worn or damaged components to prevent unnecessary down-time next season.

For a long, trouble-free life, this procedure should be followed when preparing the machine for storage:

1. Remove all left over product or residue from the hopper and inside tube.
2. Inspect all moving or rotating parts and remove anything which has become entangled.
3. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
 - Wash on top and under the belt.
 - Clean inside the tube.
4. Inspect all hydraulic hoses, fittings, lines, couplers and valves.
 - Tighten any loose fittings.
 - Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
5. Lubricate all grease fittings.
Refer to Section 4.2.3
 - Ensure all grease cavities have been filled with grease to remove any water residue from having been washing.
6. Check the condition of the conveyor belt.
Replace if necessary.
7. Remove the battery (if equipped).
 - Be sure it is fully charged.
 - Store it inside.
 - Do not sit the battery on a cold, concrete floor.
8. Touch up all paint nicks and scratches to prevent rusting.
9. Select an 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.
10. Remove the engine ignition key (if equipped).
 - Store in a memorable location.
11. Do not allow children to play on or around unit.

IMPORTANT:

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



Fig 59 - Collapsed position

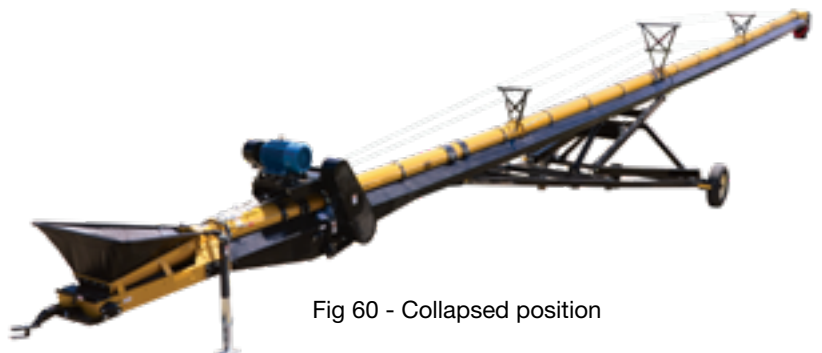


Fig 60 - Collapsed position

Section 4: SERVICE AND MAINTENANCE

WARNING

- Review the Operator's Manual and all safety items before maintaining the conveyor.
- Clear the area of bystanders, especially children, before repairing or adjusting.
- Before servicing, repairing or unplugging; place controls in neutral, stop engine, remove ignition key and wait for moving parts to stop.
- 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.
- Relieve pressure from the hydraulic circuit before servicing.
- Before applying pressure to a hydraulic system, make sure all components are tight, 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.
- When maintenance is complete, before resuming work, install and secure all guards.
- Keep decals clean, replace if not readable.

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

4.1 FLUIDS AND LUBRICANTS

Fuel and Engine Oil (if equipped):

Refer to the engine's operator manual for specific information.

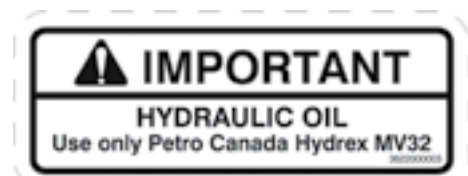
Grease:

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

Hydraulic Oil (if equipped):

Use an ISO grade 32 hydraulic oil for all operating conditions (Hydrex MV32 or comparable).

- Reservoir capacity varies depending on model.



3622000003

Fig 61 - Hydraulic oil decal

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:**NOTICE****GREASING HAZARD**

Too much grease causes excessive overheating. Under-greasing accelerates equipment wear.

No grease should be seen around bearings. If there is, too much grease was applied and the seal has ruptured!

IMPORTANT:

Grease bearings only one pump per month under normal usage conditions.

Bearing greasing frequency should be determined by usage and conditions.

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 greasable, but require only minimal grease.

Recommended greasing is one small stroke every month. 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.



1300006014

Fig 62 - Lubricate decal

4.2 SERVICING INTERVALS

Use the Service Record provided on page 4-21, to keep a record of all scheduled maintenance.

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 your equipment.

IMPORTANT:

For engine servicing and maintenance, refer to it's manual for complete details.



Fig 63 - Countershaft

4.2.1 Every 10 Hours or Daily:

Electric Drive Units:

1. Grease countershaft bearings (if equipped).

PTO Drive Units:



Fig 64 - End PTO Longitudinal Shaft

⚠ WARNING

ROTATING PART HAZARD

Turn off engine/motor. Disconnect power source. Wait for PTO to stop moving.

IMPORTANT:

Keep the PTO shaft and yokes well greased at all times.

2. Grease PTO shaft and yokes.

3. Grease End PTO model longitudinal shaft (2 locations).

Gas Engine Units:

4. Check fuel level. Add as required.
5. Check engine oil level. Add as required.
6. Clean air filter.
7. Grease countershaft bearings.



Fig 65 - Gas engine



Fig 66 - Fuel tank

All Conveyors:

8. Inspect conveyor belt lacing for wear.
9. Inspect all rollers and bearings for play and wear.
 - Replace if necessary.
10. Check hydraulic oil level (if equipped).



Fig 67 - Belt lacing and roller



Fig 68 - Hydraulic reservoir

4.2.2 Every 50 Hours or Weekly:

11. Check the conveyor belt tension.
 - Watch the tension more often while breaking-in the conveyor, because the belt may stretch. Refer to Section 4.3.1
 - **Note:** A properly tensioned belt will not slip when in operation.

12. Check the conveyor belt alignment.
 - How the belt is aligned to the rollers must be checked at the hopper, transition, drive box and discharge.
 - Watch the alignment more frequently during the first 10 hours of operation. It usually seats itself and can be checked weekly after that. Refer to Section 4.3.2

13. Check the condition of the rubber, hopper flashing. Be sure it still seals the hopper to prevent leaking.
 - If any product leaks 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 grain is lost.
 - If the flashing is stuck to the belt, manually peel the flashing up and off the hopper. Replace it if necessary.

Gas or Electric Drive Units:

14. Check drive belt tension.
Refer to Section 4.3.6

15. Check pulley alignment.
Refer to Section 4.3.7

Hydraulic Drive Units and Units with Swing-Out Conveyor:

16. Inspect the coupler between the hydraulic drive (if equipped) and the drive box, for wear.

17. Oil hydraulic drive coupler or chain (if equipped).



Fig 69 - Tension bolts, Spring Tension Drive Box



Fig 70 - Tension bolts, Positive Pinch Drive Box



Fig 71 - Hopper



Fig 72 - Hydraulic drive

4.2.3 Every 100 Hour or Monthly:**Note:**

Recommended greasing is one small stroke every month. Be careful not to over-grease as this may push the seal out.

18. Grease hopper roller bearings.
19. Grease transition roller bearings (if equipped).
20. Grease drive box roller bearings (if equipped).
21. Grease discharge roller bearings.

Units Equipped with Swing-Out:

22. Grease hopper, transition and discharge roller bearings.



Fig 73 - Hopper and tail roller



Fig 74 - Transition roller bearings



Fig 75 - Discharge

1200 Series Goose Neck (TCGN) Models:

23. Check hold-down wheels for wear on rubber wrap.
 - Replace if necessary.
 - Refer to Section 4.3.9



Fig 76 - Goose Neck hold-down wheel transition

**4.2.4 Every 200 Hours or Annually:
PTO Drive Units:**

24. Change the oil in the PTO gearbox.

Gas Engine Units:

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

- Change engine oil and filter.
- Change in-line fuel filter.
- Change engine air filter.

26. If equipped with a battery, test its charge.
- It should retain its maximum charge.

Units equipped with a Hydraulic Reservoir:

27. Take a hydraulic oil sample and send it to a lab for particle count analysis.
- Change oil if necessary.

28. Change the hydraulic oil filter.

All Conveyors:

29. Grease upper lift bearings
(A-frame undercarriage).

30. Grease both ends of conveyor lift cylinder
(scissor lift undercarriage).



Fig 77 - Gas Engine



Fig 78 - Engine, battery and hydraulics



Fig 79 - Upper Lift Bearings



Fig 80 - Tube Lift Cylinder

31. Check that the tube is straight, horizontally and vertically.
- If adjustment is necessary, take tension off the cables by supporting the tube

Note:

A thin strap can be fed between the tube and windguard, around the bottom of the tube and out the other side. Then, it can be supported by a winch or forklift.

- Adjust eyebolts at the hopper end.
- Remove support from the tube to view the result of the adjustment.
- Repeat process until the tube is straight.

32. Repack the wheel bearings.

33. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
- Wash the outside.
 - Wash around the hopper.
 - Leave the belt running while washing inside the tube and around the belt.



Fig 81 - Cable Bridging Eye Bolts



Fig 82 - Eyebolts and cable bridging



Fig 83 - Wheels



Fig 84 - 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.

To check belt position, idle the engine, then rotate the belt slowly.

4.3.1 Conveyor Belt Tension:

The tension of the belt should be checked weekly, or more often if required, to be sure that it does not slip under load.

Top-End Drive Units:

1. Loosen the tail roller bearing housing bolts.
2. Move the adjustment bolts to correct the belt's tension.
3. Tighten the roller bearing housing.
4. Adjust equally on the other side to maintain alignment.

Note:

To measure the belt tension, push on the underside of the belt. It should move up to 4 inches (10 cm). Any more than that and the belt needs more tension.

Spring Tension Drive Box (S-Drive) Units:

Shorter conveyors, have yellow washers sandwiched between tension bolt and spring.

Reference the tension indicator on the outside of each spring. Line up the yellow washer with the arrows in the window. Using the indicator, the tension bolt springs will measure 3-3/4" (95 mm).

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 the 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.



Fig 85 - Tail roller adjustment bolt



Fig 86 - S-Drive drive box tension bolts w/ tension indicator

Positive Pinch Drive Box Units:

Used on conveyors 55' and longer.
Longer tube conveyors have Positive Pinch Drive.

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

Tighten the tension bolts completely.

When the conveyor belt is tensioned correctly, the arm at the end of the spring should sit vertical. It can also be angled back, away from the tension bolt by as much as 2 inches. This indicates that the belt is well adjusted and is a good length. See Figure 97

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 right edge (away from the tension bolt), the belt is too short. Remove and replace with longer belt.

Swing-Out Conveyor Belt Tension:

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

1. Loosen the tail roller bearing housings on both sides.
2. Adjust the tension bolt.
3. Tighten the tail roller bearing housing.

IMPORTANT:

Adjust both sides equally to maintain the belt alignment.



Fig 87 - Tension Bolt



Fig 88 - Belt length indicator



Fig 89 - Swing-out tail roller bearing

4.3.2 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.

Check frequently during the first few minutes of operation with a new belt, and then several times during the first 10 hours.

The new belt normally seats itself during the first 10 hours of operation and can be checked weekly after that.

⚠ WARNING**ROTATING BELT HAZARD**

Idle the engine, then rotate the belt slowly when checking alignment. Turn off engine when adjusting rollers.

Belt Alignment at Tail Roller:

1. 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.

2. Adjust one side of roller at a time.
 - Loosen the bearing housing, then adjust.
3. Tighten the adjustment bolt against housing.
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.



Fig 90 - Hopper tail roller bearing

Spring Tension Drive Box Belt Alignment:

If necessary to adjust the position of the belt inside the drive box, use drive roller to make the adjustments.

1. Adjust one side of the drive roller at a time.
 - Loosen the bearing housing, then adjust.
2. Tighten the bearing housing.
3. Run the belt a couple of revolutions and check the alignment.
 - Repeat steps until the belt runs centred.
4. Replace the bearing housing guard.

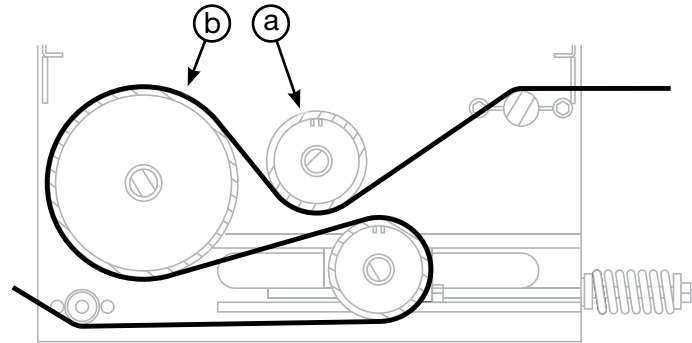


Fig 91 - Spring tension drive box:
10" drive roller (a), 5" pinch roller (b)

Positive Pinch Drive Box Belt Alignment:

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

This time "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.

1. Loosen the drive roller bearing housing on the loose side of the belt.
2. Use the adjustment bolts at the front of the drive box to move the brackets connected to the drive roller.
3. The misaligned belt will travel to towards the loose side of the roller.
 - Loosen the loose side, more.
4. Tighten the bearing housing.
5. Run the belt to check it's alignment.
 - Repeat steps if necessary.
6. Replace the housing guard.

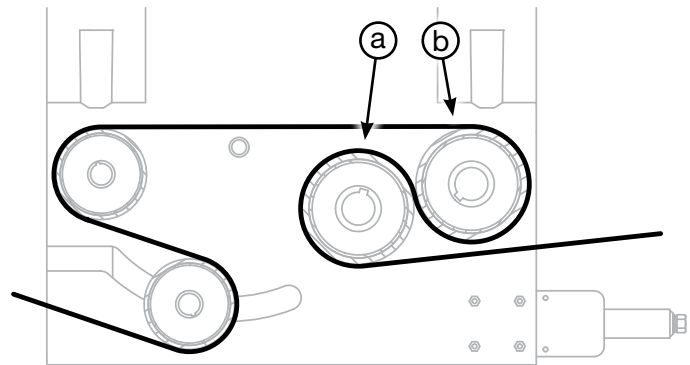


Fig 92 - Positive pinch drive box:
Pinch roller (a), drive roller (b)

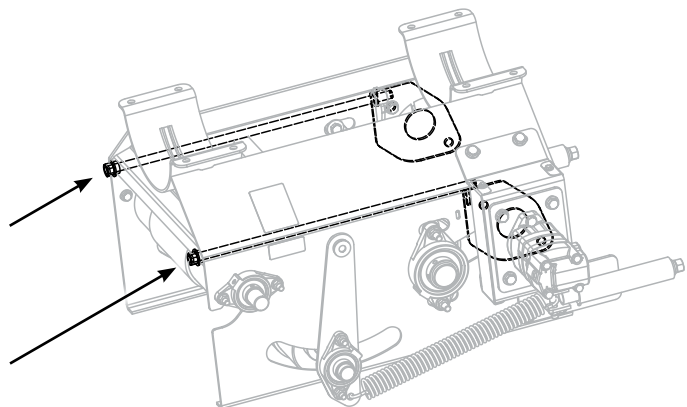


Fig 93 - Adjustment bolts and brackets inside drive box

Belt Alignment at Discharge Roller:

1. 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.

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



Fig 94 - Inside discharge spout

Swing-Out Conveyor Belt Alignment:

1. Run 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 the roller at a time.
 - Loosen the bearing housing, then adjust.
3. Tighten the roller bearing housing.
4. Rotate the conveyor belt slowly, and check the position of the belt on each roller.
 - Repeat steps until the belt is centred.
5. Replace the housing guard.
6. Continue the process to check and adjust the other rollers in the other conveyor.



Fig 95 - Tail roller bearing on the swing-out

4.3.3 Conveyor Belt Replacement:

1. Rotate the conveyor belt until the Alligator® Lacing is positioned under the tube, inside the wind guard, and is accessible.
2. Rotate the tension bolts at the drive box to their loosest position.
3. Pull all the slack to the lacing area.
4. Remove the lacing cable 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.

Note:

See Figures 90 and 91 for belt routing through the drive box.

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

Note:

Cordless drill can be used to thread cable.
Proceed slowly.

10. Cut off excess cable.
11. Crimp lacing at one end to lock the cable in place.
12. Cut and taper the corners of the trailing end of the belt.

IMPORTANT:

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

13. Set belt tension. Refer to Sections 4.3.1

14. Set the belt alignment.
Refer to Section 4.3.2

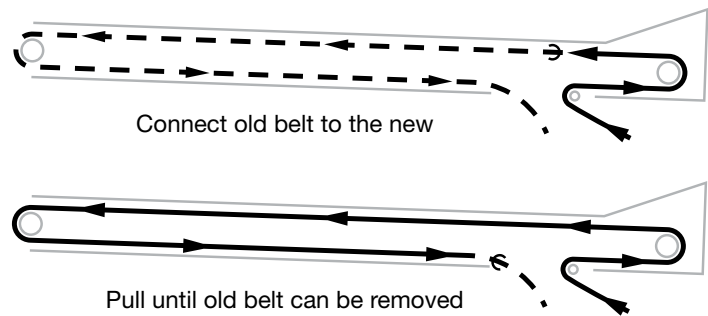


Fig 96 - Thread belt through conveyor



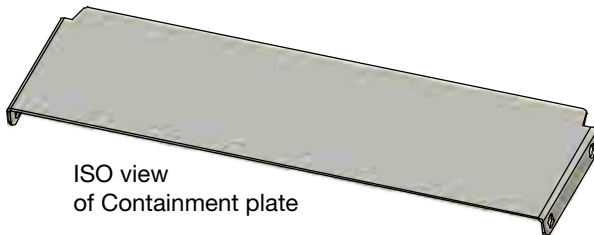
Fig 97 - Thread lacing cable



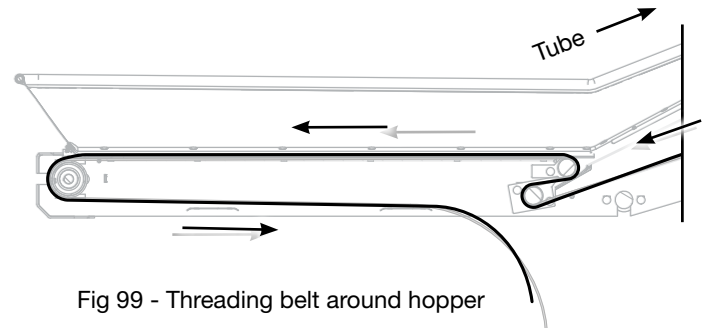
Fig 98 - Crimp lacing and taper belt corners

4.3.4 Swing-Out Belt Replacement:

1. Loosen the tail end bearing housing.
2. Rotate the conveyor belt until the Alligator® lacing is accessible.
3. Pull all the slack to the lacing area.
4. Remove the lacing pin and open the belt.
5. Loosen the belt from below the transition.
6. Remove the containment plate from underneath the transition rollers.
 - This will help when threading the new belt.



7. Attach the new belt to the end of the old belt.
 - Pull the end of the old belt, threading the new one into place.
8. **IMPORTANT:** Reinstall the containment plate once the new belt is through the transition and around tail roller.
 - Leave the belt hanging below transition.
 - Do not fasten the belt lacing yet.
9. The Containment Plate will fit between the two weldments below the 2nd transition roller.
 - **Note:** The tongue of the plate will sit on top of the angle iron.
10. Insert the bolts from inside.
 - The washers and nuts are fastened from the outside of the hopper.
11. Continue to thread the lacing cable and fasten as in Section 4.3.3.
12. Set belt tension. Refer to Page 4-10
13. Set the belt alignment. Refer to Page 4-13



4.3.5 Hopper Flashing Replacement:

This is an image of our standard conveyor hopper before the belt is threaded.



Fig 102 - Standard hopper

1. Install the Hopper Tail Flashing onto the front of the hopper, first.



Fig 103 - New tail flashing

2. The Hopper Side Flashing must be placed over top the Tail Flashing.



Fig 104 - New side flashing

3. When the conveyor belt is threaded through the tube and hopper, be sure to pull it underneath the Side and Tail Flashing.

IMPORTANT:

The hopper flashing must sit on top of the conveyor belt, to work correctly sealing the hopper.



Fig 105 - Completed hopper with belt

4.3.6 Drive Belt Tension:**⚠ WARNING****ROTATING PART HAZARD**

Turn off engine/motor. Disconnect power source and wait for belts to stop moving.

IMPORTANT:

If the drive is equipped with a countershaft, tensioning must be done in the following order:

First, set tension on “drive-to-countershaft” belt.

1. Open the guard over the V-belt pulley.
2. Loosen countershaft bearing mount anchor nuts and jam nuts.
3. Use bearing mount position bolts to set countershaft position and set belt tension.

Calculate the tension:

- Measure the length of span between pulleys
- Allow 1/64” of deflection per inch of span

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

Second, set tension on “engine-to-countershaft” belt.

7. Open the guard over the V-belt pulley.
8. Loosen engine/motor mount nuts and jam nuts.
9. Use motor mount nuts to set belt tension.

Calculate the tension (See Figure 106):

- Measure the length of span between pulleys.
- Allow 1/64” of deflection per inch of span



Fig 106 - Drive-to-Countershaft belt

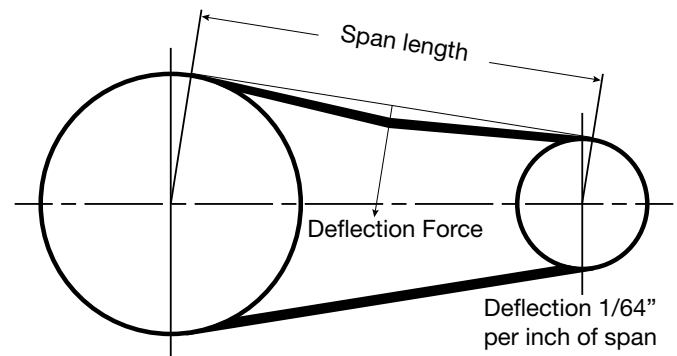


Fig 107 - Tension Calculation



Fig 108 - Motor-to-Countershaft belt

10. Tighten motor mount anchor nuts.
11. Tighten adjusting bolt(s) and lock nut(s).
12. Close and secure guard over pulleys.

4.3.7 Pulley Alignment:

1. Lay a straight edge across both drive and driven pulleys to check alignment.
2. Use the tapered lock hub in the center of the pulley to adjust the position of a pulley if required.
3. Move a pulley to align if there is more than a 1/32 inch gap between the edge of the pulley and the straight edge.



Fig 109 - In-Line Drive with Guard Opened

4.3.8 Drive Belt Replacement:

1. Place drive system into its loosest position.
2. Remove old belt.
3. Install replacement belt.
4. Set belt tension. Refer to Section 4.3.6
5. Check pulley alignment. Refer to Section 4.3.7

Table 2 - Belt Deflection Force

CROSS SECTION	Smallest Sheave Diameter Range	RPM Range	Belt Deflection (Force Pounds)			
			Uncogged Hy-T® Belts and Uncogged Hy-T® Torque Team®		Cogged Torque Flex® and Machined Edge Torque Team® Belts	
			USED BELT	NEW BELT	USED BELT	NEW BELT
A, AX	3.0 - 3.6	1000-2500 2501-4000	3.7 2.8	5.5 4.2	4.1 3.4	6.1 5.0
	3.8 - 4.8	1000-2500 2501-4000	4.5 3.8	6.8 5.7	5.0 4.3	7.4 6.4
	5.0 - 7.0	1000-2500 2501-4000	5.4 4.7	8.0 7.0	5.7 5.1	9.4 7.6
B, BX	3.4 - 4.2	860-2500 2501-4000	n/a	n/a	4.9 4.2	7.2 6.2
	4.4 - 5.6	860-2500 2501-4000	5.3 4.5	7.9 6.7	7.1 6.2	10.5 9.1
	5.8 - 8.6	860-2500 2501-4000	6.3 6.0	9.4 8.9	8.5 7.3	12.6 10.9
C, CX	7.0 - 9.0	500-1740 1741-3000	11.5 9.4	17.0 13.8	14.7 11.9	21.8 17.5
	9.5 - 16.0	500-1740 1741-3000	14.1 12.5	21.0 18.5	15.9 14.6	23.5 21.6
D	12.0 - 16.0	200-850 851-1500	24.9 21.2	37.0 31.3	n/a	n/a
	18.0 - 20.0	200-850 851-1500	30.4 25.6	45.2 38.0	n/a	n/a
			Uncogged Hy-T® Wedge Belts and Uncogged Hy-T® Wedge Torque Team®		Cogged Hy-T® Wedge Belts and Hy-T® Wedge Machine Edge Torque Team®	
			USED BELT	NEW BELT	USED BELT	NEW BELT
5V	4.4 - 6.7	500-1749 1750-3000 3001-4000	n/a	n/a	10.2 8.8 5.6	15.2 13.2 8.5
	7.1 - 10.9	500-1740 1741-3000	12.7 11.2	18.9 16.7	14.8 13.7	22.1 20.1
	11.8 - 16.0	500-1740 1741-3000	15.5 14.6	23.4 21.8	17.1 16.8	25.5 25.0

4.3.9 Goose Neck Hold-Down Wheel Replacement:

1. Remove transition cover.
2. Remove bolts which face the open hopper (a).
- 2 bolts on either side.
3. Remove bolts which are inside the tube (b).
- 1 on either side.
4. Now, these side brackets are loose, but still attached to the hopper flashing.
- Folded both sides out, to lay on hopper.
- This will give access to the wheels.
5. Remove the bolts on worn wheels (c).
- Remove the worn wheels.
6. Insert the new wheels and tighten bolts.
7. Fold side brackets back into place.
- Bolt and tighten.
8. Secure transition cover to guard hopper transition.



Fig 110 - Transition Cover

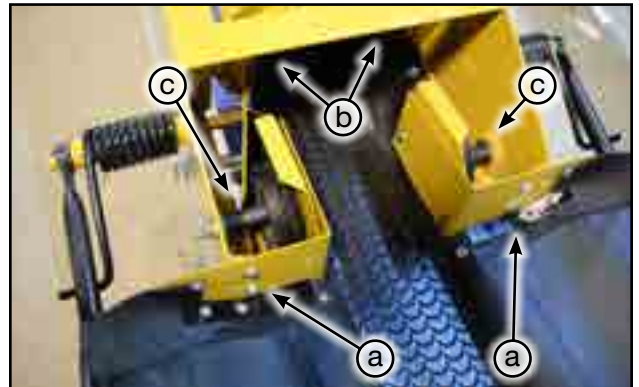


Fig 111 - Bolts Facing Hopper (a), Bolts Inside (b), Wheels (c)

4.3.10 Changing Hydraulic Oil:

Use an ISO grade 32 hydraulic oil for all operating conditions (Hydrex MV32 or comparable).

Reservoir capacity varies depending on model.

⚠ WARNING**HOT LIQUID HAZARD**

Allow hydraulics to cool before changing oil.
Hot oil will burn if it contacts exposed skin.

IMPORTANT:

Annually, have an oil sample tested for particle count.

Change oil only if necessary.

1. Allow the hydraulics to cool slightly before changing oil.

Note:

It is best to change oil while the engine is warm (not hot) to keep contaminants in suspension.

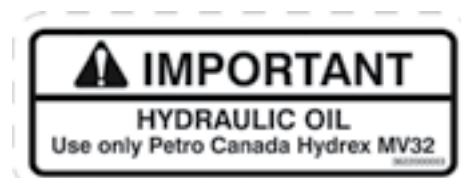
2. Place a large pan or pail under the drain plug. The reservoir capacity is 95 Litre (25 US Gallons).
3. Remove drain plug and allow to drain for 10 min.
4. Install and tighten the drain plug.
5. Dispose of the used oil in an approved container and manner.
6. Fill the reservoir with specified oil.

4.3.11 Replacing Hydraulic Oil Filter:

1. Place a pan under filter to catch any spilled oil.
2. Remove hydraulic oil filter, and dispose of it.
3. Fill the new filter with hydraulic oil.
4. 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.
5. Run the engine for 1-2 minutes and check for oil leaks.
6. If leaks are found around the drain plug or filter, tighten slightly.
7. Check oil level. Top up as required.



Fig 112 - Hydraulic oil filter



3622000003

Fig 113 - Hydraulic oil decal

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

This section contains a list of common problems, causes and offers quick solutions to those issues.

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

Problem

Possible Cause	Possible Solution
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Electric motor labouring

Belt is sticky on the back side, because of oily product or wet/snowy conditions	Clean the belt
Hopper flashing too tight	Adjust to loosen the flashing

Gas engine won't start

Low battery	Recharge or replace
No fuel	Refuel
Plugged fuel filter	Replace filter
Cold engine	Open choke
Air filter is dirty	Clean or replace the air filter

Engine bogs down or labours while running

Not enough power	Open the gate to unload more product. This allows the governor to torque and engage.
Belt is sticky on the back side, because of oily product or wet/snowy conditions	Clean the belt
Hopper flashing too tight	It will wear in. Adjust to loosen the flashing if still tight after the conveyor has been broken-in.

continued on next page

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 is loose	Tighten and align
	The belt has stretched. Shorten 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 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
Drive belt(s) is loose	Tighten drive belt(s) and align pulleys
No power	Start engine, increase speed to maximum RPM
Drive roller slipping on electric/gas system	Replace V-belt
Hydraulic system - valve, pump or motor is malfunctioning	Check and adjust pressure set screw on valve. Test flow from pump. Check for oil leaks under motor. Replace what is needed.
Hydraulic pressure may be low, check gauge. It should be in 2000lbs range	Check hydraulic pump. Replace if necessary
Set screw (relief valve) on Dtent control valve on belt drive valve isn't set correctly	IMPORTANT: Do not run hydraulic motor during this adjustment. Turn the set screw all the way in, then turn back out 1-1/2 turns. Note: Turning out increases volume of flow, turning in increases pressure.
Seized bearing	Check all bearings, Replace any that are rough or seized
Belt/roller is jammed	Check for sticks, stones, other objects jammed in belt drive area and remove

Low conveying capacity

Conveyor belt not tight enough	Tighten conveyor belt
V-Belt(s) is loose	Tighten belts and align pulleys or replace
Roller lagging is worn out	Replace roller or have it relagged
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.
Electric/Gas system - drive roller is slipping or is worn out	Tighten or replace V-belt
Conveyor angle exceeds 30 degrees	Reposition with a lower tube slope

continued on next page

No hydraulic oil 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
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
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Product leakage

	
Corner Flashing may not be cupping the roller tight enough.	Loosen the Flashing Clamp, then adjust the rubber flashing so it is tight around the roller.
Product may be getting under the belt at the hopper, traveling up inside the belt and leaking off discharge end	Replace hopper flashing

Swing-Out hydraulic mover kit drives too fast or 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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Swing-Out electric mover kit does not drive

Fuse may be need to be replaced	The fuse box is located to the side of the Controller Box on the Swing-Out tube. Check/Replace the fuse.
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Section 6: REFERENCE

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

Specifications and measurements are subject to change without notice.

Table 3 - Specifications

MODEL	UNDER-CARRIAGE	TUBE DIAMETER	BELT WIDTH	AXLE WIDTH	TRANSPORT HEIGHT	TRANSPORT LENGTH
1235	A-Frame	10"	12"	7' 11"	6' 10"	24' 4"
1235-TED	A-Frame	10"	12"	7' 11"	11' 9"	37' 2"
1240-TED	A-Frame	10"	12"	7' 11"	13' 10"	41' 9"
1245	A-Frame	10"	12"	9' 2"	11' 2"	49' 2"
1235-FL	A-Frame	10"	12"	7' 11"	8' 2"	39' 10"
1245-FL	A-Frame	10"	12"	8'	14' 2"	42' 3"
1635	A-Frame	10"	16"	8'	10' 11"	40' 8"
1645	A-Frame	10"	16"	9' 1"	11' 8"	50' 10"
1635-FL	A-Frame	10"	16"	7' 11"	10' 5"	43' 7"
1645-FL	A-Frame	10"	16"	8' 4"	11' 5"	53' 7"
1655	Scissor Lift	10"	16"	11' 4"	9' 9"	61'
1665	Scissor Lift	10"	16"	11' 4"	10' 8"	71'
1670	Scissor Lift	10"	16"	11' 4"	11' 10"	75' 11"
1675	Scissor Lift	10"	16"	11' 4"	12' 5"	80' 11"
1685	Scissor Lift	10"	16"	12' 6"	11' 7"	91' 1"
1690	Scissor Lift	10"	16"	12' 6"	12' 2"	96'
16100	Scissor Lift	10"	16"	13' 6"	14' 7"	105' 10"
2235	A-Frame	14"	22"	8' 4"	10' 8"	38' 8"
2245	A-Frame	14"	22"	9' 1"	11' 3"	48' 9"
2265	Scissor Lift	14"	22"	9' 1"	11' 5"	69'
2270	Scissor Lift	14"	22"	9' 1"	11' 7"	74'
2275	Scissor Lift	14"	22"	9' 1"	11' 2"	78' 11"
2285	Scissor Lift	14"	22"	13' 6"	12' 4"	89'
2290	Scissor Lift	14"	22"	13' 6"	13' 1"	93' 11"
22100	Scissor Lift	14"	22"	13' 6"	14'	103' 11"
22110	Scissor Lift	14"	22"	13' 6"	14' 6"	108' 11"
22120	Scissor Lift	14"	22"	13' 11"	15'	124'

Transport height uses 19" hitch height

Table 4 - Working Measurements

MODEL	15°			20°			25°			30°		
	HEIGHT	LENGTH	TIRE TO DISCHARGE	HEIGHT	LENGTH	TIRE TO DISCHARGE	HEIGHT	LENGTH	TIRE TO DISCHARGE	HEIGHT	LENGTH	TIRE TO DISCHARGE
1235	n/a	n/a	n/a	11' 10"	34' 7"	n/a	14' 11"	33' 4"	n/a	17' 10"	32' 2"	n/a
1235-TED	n/a	n/a	n/a	11' 1"	33' 10"	n/a	14'	32' 11"	n/a	16' 10"	31' 10"	n/a
1240-TED	n/a	n/a	n/a	13' 11"	38' 7"	n/a	17' 11"	37' 6"	n/a	21' 2"	35' 11"	n/a
1245	11' 5"	44' 7"	n/a	15' 5"	43' 7"	n/a	19' 3"	42' 4"	n/a	23'	40' 8"	n/a
1235-FL	n/a	n/a	n/a	10' 3"	33' 11"	n/a	13' 5"	33'	n/a	16' 6"	31' 10"	n/a
1245-FL	n/a	n/a	n/a	n/a	n/a	n/a	18'	42' 3"	n/a	21' 10"	40' 8"	n/a
1635	n/a	n/a	n/a	11' 6"	37' 1"	18' 1"	14' 8"	35' 10"	17' 2"	17' 9"	34' 5"	16' 5"
1645	10' 10"	45' 6"	24' 6"	14' 11"	44' 7"	24' 1"	18' 11"	43' 5"	23' 7"	21' 9"	41' 10"	23' 1"
1635-FL	n/a	n/a	n/a	10' 9"	36' 7"	20' 5"	14' 1"	35' 7"	19' 11"	17' 4"	34' 4"	19' 5"
1645-FL	n/a	n/a	n/a	14' 2"	46' 1"	23' 11"	18' 5"	44' 8"	23' 3"	22' 1"	42' 11"	22' 5"
1655	13' 5"	5' 2"	23'	18' 4"	54'	22' 4"	23' 2"	52' 5"	21' 6"	27' 9"	50' 6"	20' 5"
1665	16' 2"	64' 7"	32' 4"	22'	63'	31' 3"	27' 4"	60' 11"	30' 1"	32' 8"	58' 5"	28' 7"
1670	17' 4"	69' 8"	37'	23' 6"	68' 1"	35' 11"	29' 6"	66' 1"	34' 7"	35' 3"	63' 6"	33'
1675	18' 9"	74' 6"	42'	25' 3"	72' 10"	40' 9"	31' 7"	70' 7"	39' 2"	37' 8"	67' 10"	37' 3"
1685	21' 5"	84' 2"	45' 4"	28' 9"	82' 3"	43' 11"	35' 11"	79' 8"	42' 2"	42' 9"	76' 6"	40'
1690	22' 7"	89'	50'	30' 4"	86' 11"	48' 7"	37' 11"	84' 2"	46' 9"	45' 3"	80' 10"	44' 5"
16100	25' 3"	98' 8"	55' 3"	33' 10"	96' 4"	53' 4"	42' 2"	93' 3"	50' 11"	50' 2"	89' 6"	48'
2235	n/a	n/a	n/a	10' 11"	33' 6"	n/a	13' 11"	32' 8"	n/a	16' 9"	31' 7"	n/a
2245	9' 11"	43' 8"	24' 3"	13' 9"	42' 10"	23' 10"	17' 6"	41' 8"	23' 3"	21' 1"	40' 2"	22' 6"
2265	15' 1"	63'	30' 1"	20' 7"	61' 8"	29' 2"	25' 10"	59' 10"	28' 1"	30' 11"	57' 7"	26' 8"
2270	16' 10"	67' 10"	n/a	22' 9"	66' 4"	n/a	28' 6"	64' 4"	n/a	34' 1"	61' 11"	n/a
2275	17' 8"	72' 8"	39' 9"	24'	71' 1"	38' 7"	30' 1"	68' 11"	37' 2"	35' 11"	66' 3"	35' 4"
2285	20' 9"	82' 4"	37' 5"	27' 10"	80' 5"	36' 1"	34' 8"	77' 11"	34' 4"	41' 3"	74' 10"	32' 3"
2290	22' 1"	87' 2"	42' 3"	29' 7"	85' 2"	40' 10"	36' 10"	82' 5"	38' 11"	43' 9"	79' 2"	36' 7"
22100	24' 8"	96' 10"	51' 11"	33' 0"	94' 6"	50' 2"	41' 0"	91' 6"	48'	48' 9"	87' 10"	45' 3"
22110	27' 3"	101' 8"	61' 7"	36' 5"	99' 3"	59' 7"	45' 3"	96'	57'	53' 9"	92' 9"	53' 11"
22120	29' 10"	116' 2"	57' 8"	39' 10"	113' 4"	55' 9"	49' 6"	109' 8"	53' 5"	58' 9"	105' 2"	50' 7"

Working lengths measured from centre of hopper to centre of discharge
 Tire to Discharge length is measured from the rear edge to centre of discharge

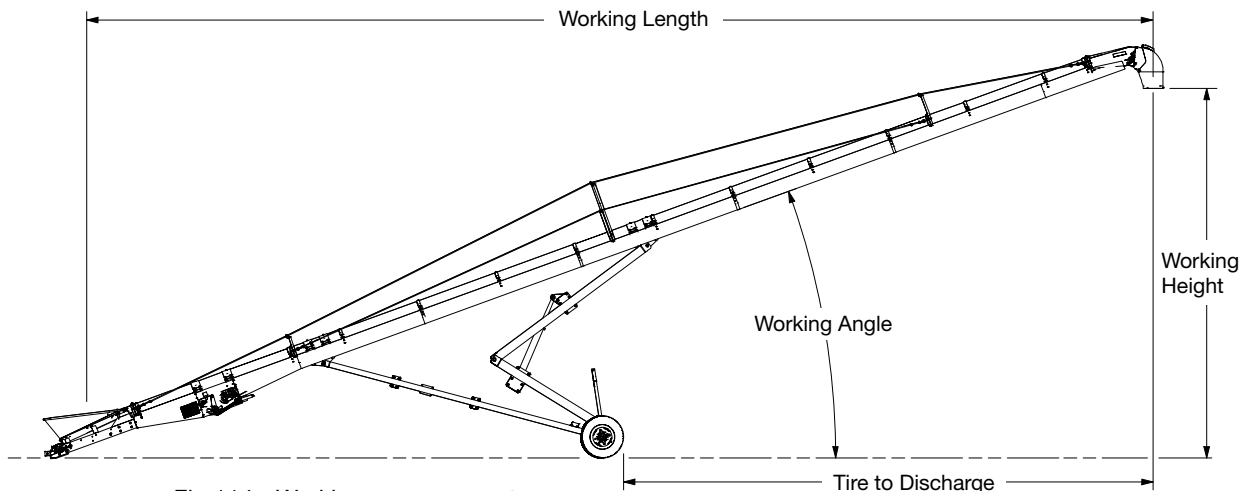


Fig 114 - Working measurements

6.1 BOLT TORQUE

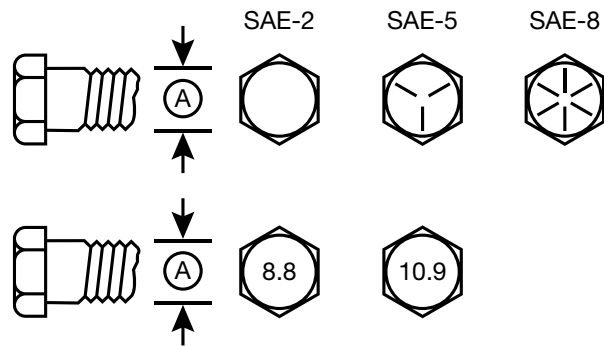
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Table 5 - English Torque Specifications

BOLT DIA. "A"	BOLT TORQUE*					
	SAE 2 (Nm) (ft-lb)		SAE 5 (Nm) (ft-lb)		SAE 8 (Nm) (ft-lb)	
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 6 - Metric Torque Specifications

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



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

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

LIMITED WARRANTY STATEMENT

1. Meridian Manufacturing Inc, hereafter referred to as Meridian®, warrants each new product (the "Goods") to be free from defects in material and workmanship under normal use and service for a period of one (1) year or ninety (90) days in the case of commercial use, from the shipment date from the Meridian dealer (FCA).
2. Meridian warrants replacement parts and components either manufactured or sold by, will be free from defects in materials or workmanship under normal use and service for thirty (30) days from the shipment date from the Meridian dealer (FCA), or the remainder of the original warranty period on the Goods, whichever is longer.
3. This warranty does not apply to:
 - a. To any merchandise or components thereof, which in the sole and unfettered opinion of Meridian, have been subject to misuse, unauthorized modifications, alteration, accident, negligence, product abuse or lack of required maintenance.
 - b. If repairs have been made with parts or by persons other than those parts or persons approved by Meridian.
 - c. To parts and accessories not manufactured by Meridian including, but not limited to, engines, batteries, tires, belts, PTO shafts or other trade accessories. Such parts shall be covered by the warranty given by the actual manufacturer, if any.
 - d. To failure of parts; or failure of parts to perform due to wear under normal or excessive service conditions; or to failure due to use by the Purchaser for purposes other than originally intended at time of manufacture, including without limitation using the Goods for mixing fertilizer, etc.; or used in excess of the built specifications.
 - e. To Goods used in areas exposed to corrosive or aggressive conditions including, but not limited to, salt water from either inside or outside the Goods.
 - f. To failures or defects arising out of damage during shipment or during storage.
 - g. To materials replaced or repaired under this warranty, except to the extent of the remainder of the applicable warranty.
4. The obligation of Meridian under this warranty shall not arise unless Meridian is notified and this warranty is presented together with a written statement specifying the claim or defect within thirty (30) days after the failure is first detected or made known to the Purchaser and within: (i) one (1) year, or ninety (90) days in the case of commercial use; or (ii) thirty (30) days in the case of replacement parts and components manufactured by Meridian; from the shipment date from the Meridian dealer (FCA). Meridian in its sole and unfettered discretion shall determine if the claim is valid and whether correction of the defect or failure shall be made by repair or replacement of the materials.
5. Title to any replaced materials Meridian wishes to have pass to it, shall pass to Meridian.
6. The obligation of Meridian hereunder extends only to the original Purchaser or Buyer to whom the Goods were initially sold. This warranty shall not be subject to any assignment or transfer without the written consent of Meridian.
7. The purchaser acknowledges that it has made its own independent decision to approve the use of the Goods and also the specific fabrication and construction procedures utilized to complete the Goods, and has satisfied itself as to the suitability of these products for its use.

8. This warranty is subject to the following limitations, provisions and conditions:
 - a. Meridian shall have no liability hereunder for any claims, including field re-work.
 - b. Meridian shall not be liable for any incidental loss or damage, however caused, including, without limitation, normal wear and tear.
 - c. Meridian makes no express or implied warranties of any nature whatsoever except for such express warranties as set out herein. The warranty provided herein is in lieu of and excludes all other warranties, guarantees or conditions pertaining to the Goods, written or oral, statutory, express or implied, (except the warranty as to title) including any warranty as to the merchantability or fitness for any particular purpose. Meridian expressly disclaims all other representations, conditions or warranties, expressed or implied, statutory or otherwise and any representations, warranties or conditions that may arise from a course of dealing or usage of trade. The warranty provided herein shall constitute Meridian's sole obligation and liability and the Purchaser's sole remedy for breach of warranty. No other warranty has been made by any employee, agent, or representative of Meridian and any statements contained in any other printed material of Meridian is expressly excluded here from. Meridian shall not be responsible for any warranty offered by the Purchaser to its customers with respect to the Goods and the Purchaser shall indemnify Meridian with respect to same if any of those customers makes a claim against Meridian relating to any such warranty.
 - d. Subject to Meridian's obligations contained in paragraphs 1 and 2 herein, none of Meridian, its officers, directors, servants or agents shall be liable, or responsible for any loss or damage (including strict liability and liability for loss or damage due to items which the manufacturing processes are designed to identify) whether such loss or damage is caused by negligence in any manner whatsoever (including gross negligence, error, misrepresentation, misstatement, imprudence, lack of skill or lack of judgement).
9. The sole financial obligation of Meridian under this warranty shall be limited to the repair or replacement of the Goods as originally supplied and in no event shall they exceed the original cost of the Goods supplied.
10. Meridian shall not have any obligation under any warranty herein until all accounts have been paid in full by the Purchaser.
11. The construction and interpretation of this Warranty shall be governed by the laws of the Province of Manitoba.

Register your product at: www.meridianmfg.com
For warranty information send an email to: warranty@meridianmfg.com

WARRANTY REQUEST PROCEDURE

1. The product must be registered with Meridian Manufacturing Inc.
2. The purchaser must contact the dealer, from where the unit was purchased, immediately upon discovery of any defects.
3. A completed Warranty Request (Claim) Form must be submitted by the dealer to the Meridian's warranty representative for review and any subsequent course of action.
 - Warranty requests must be completed with ALL required information in order it to be considered for approval.
 - Send photographs of the entire piece of equipment, and of the specific area of concern.
4. Warranty repair work will only be performed by Meridian or an approved representative of Meridian. Warranty work completed prior to Meridian's approval will NOT be honoured. Failure to follow this procedure may affect any or all of this warranty.
5. All warranty requests will be adjudicated at the sole discretion of Meridian and in accordance with the terms and conditions of the warranty.

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