

# WCX 1335 Top-Drive Conveyor

# Portable Grain Belt Conveyor Assembly Manual

Electric and Hydraulic Drives
Original Instructions





### **New in this Manual**

The following changes have been made in this revision of the manual:

Description	Section		
Update short cross-member	Figure 29 on page 41		

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# 1. Introduction

This manual describes how to assemble a Westfield Portable Grain Belt Conveyor.

Before assembling the conveyor, please read this manual. Familiarize yourself with the process and the necessary precautions for efficient and safe assembly.

Everyone present at the assembly site is required to be familiar with all safety precautions.

Keep this manual available for frequent reference and review it with new personnel. Call your local distributor or dealer if you need assistance or additional information.



# 2. Safety

# 2.1. Safety Alert Symbol and Signal Words



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury or death, carefully read the message that follows, and inform others.

**Signal Words:** Note the use of the signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using the definitions below as a guideline.

Indicates an imminently hazardous situation that, if not avoided, will result in serious injury or death.

**⚠ WARNING** 

Indicates a hazardous situation that, if not avoided, could result in serious injury or death.

**⚠** CAUTION

Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.

NOTICE

Indicates a potentially hazardous situation that, if not avoided, may result in property damage.

# 2.2. General Product Safety

**YOU** are responsible for the **SAFE** use and maintenance of your conveyor. **YOU** must ensure that you and anyone else who is going to work around the conveyor understands all procedures and related **SAFETY** information contained in this manual.

Remember, **YOU** are the key to safety. Good safety practices not only protect you, but also the people around you. Make these practices a working part of your safety program. All accidents can be avoided.

 It is the conveyor owner, operator, and maintenance personnel's responsibility to read and understand ALL safety instructions, safety decals, and manuals and follow them when assembling, operating, or maintaining the equipment.



- Owners must give instructions and review the information initially and annually with all personnel before allowing them to operate the conveyor. Untrained users/operators expose themselves and bystanders to possible serious injury or death.
- The conveyor is not intended to be used by children.
- Use the conveyor for its intended purposes only.
- Do not modify the conveyor in any way without written permission from the manufacturer. Unauthorized modification may impair the function and/or safety, and could affect the life of the conveyor. Any unauthorized modification of the conveyor will void the warranty.

# 2.3. Moving Conveyor Belt Safety



- DO NOT step on or touch moving conveyor belt.
- Shut off and lock out power to adjust, service, or clean.



# 2.4. Rotating Parts Safety



- Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
- Do not operate with any guard removed or modified. Keep guards in good working order.
- Shut off and remove key or lock out power source before inspecting or servicing machine.



# 2.5. Drives and Lockout Safety

Inspect the power source(s) before using and know how to shut down in an emergency. Whenever you service or adjust your equipment, make sure you shut down the power source and unplug or remove the key (as applicable) to prevent inadvertent start-up and hazardous energy release. Know the procedure(s) that applies to your equipment from the following power source(s). Ensure that all personnel are clear before turning on power to equipment.



## 2.5.1 Electric Motor Safety

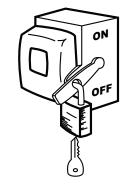
## **↑ WARNING** Power Source

- Electric motors and controls shall be installed and serviced by a qualified electrician and must meet all local codes and standards.
- A magnetic starter should be used to protect your motor.
- You must have a manual reset button.
- Reset and motor starting controls must be located so that the operator has full view of the entire operation.
- Locate main power disconnect switch within reach from ground level to permit ready access in case of an emergency.
- Motor must be properly grounded.
- Guards must be in place and secure.
- Ensure electrical wiring and cords remain in good condition; replace if necessary.
- Use a totally enclosed electric motor if operating in extremely dusty conditions.

#### Lockout

- · The main power disconnect switch should be in the locked position during shutdown or whenever maintenance is performed.
- If reset is required, disconnect all power **before** resetting motor.

#### SERVICE DISCONNECT





## 2.5.2 Hydraulic Power Safety

#### **⚠ WARNING** Power Source

- Refer to the rules and regulations applicable to the power source operating your hydraulic drive.
- Do not connect or disconnect hydraulic lines while system is under pressure.
- Keep all hydraulic lines away from moving parts and pinch points.
- Escaping hydraulic fluid under pressure will cause serious injury if it penetrates the skin surface (serious infection or toxic reaction can develop). See a doctor immediately if injured.
- Use metal or wood as a backstop when searching for hydraulic leaks and wear proper hand and eye protection.
- Check all hydraulic components are tight and in good condition. Replace any worn, cut, abraded, flattened, or crimped hoses.
- Clean the connections before connecting to equipment.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses with tape, clamps, or adhesive. The hydraulic system operates under extremely high pressure; such repairs will fail suddenly and create a hazardous and unsafe condition.

#### Lockout

• Always place all hydraulic controls in neutral and relieve system pressure before disconnecting or working on hydraulic system.



# 2.6. Tire Safety



Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion that 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 the replacement tire.
- DO NOT weld to the tire rim with the tire mounted on the rim. This action may cause an explosion which could result in serious injury or death.
- Inflate tires to the manufacturer's recommended pressure.
- Tires should not be operated at speeds higher than their rated speed.
- Keep wheel lug nuts tightened to manufacturer's recommendations.
- Never reinflate a tire that has been run flat or seriously under-inflated without removing the tire from the wheel.
   Have the tire and wheel closely inspected for damage before remounting.



# 2.7. Personal Protective Equipment

The following Personal Protective Equipment (PPE) should be worn when assembling the equipment.

#### **Safety Glasses**

Wear safety glasses at all times to protect eyes from debris.



#### **Work Gloves**

Wear work gloves to protect your hands from sharp and rough edges.



#### **Steel-Toe Boots**

Wear steel-toe boots to protect feet from falling debris.



#### **Coveralls**

Wear coveralls to protect skin.



#### **Hard Hat**

• Wear a hard hat to help protect your head.



# 2.8. Safety Equipment

The following safety equipment should be kept on site:

#### Fire Extinguisher

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



#### First-Aid Kit

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



# 2.9. Safety Decals

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible. See decal location figures that follow.
- Replaced parts must display the same decal(s) as the original part.
- Replacement safety decals are available free of charge from your distributor, dealer, or factory as applicable.

## 2.9.1 Decal Installation/Replacement

- 1. Decal area must be clean and dry, with a temperature above 50°F (10°C).
- 2. Decide on the exact position before you remove the backing paper.
- 3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
- 4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
- 5. Small air pockets can be pierced with a pin and smoothed out using the sign backing paper.

# 2.9.2 Safety Decal Locations and Details

Replicas of the safety decals that are attached to the conveyor and their messages are shown in the figure(s) that follow. Safe operation and use of the conveyor requires that you familiarize yourself with the various safety

decals and the areas or particular functions that the decals apply to, as well as the safety precautions that must be taken to avoid serious injury, death, or damage.

Figure 1. Safety Decal Locations

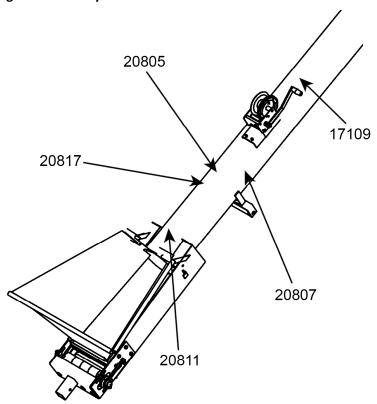


Figure 2. Electric Top Drive Safety Decal Locations

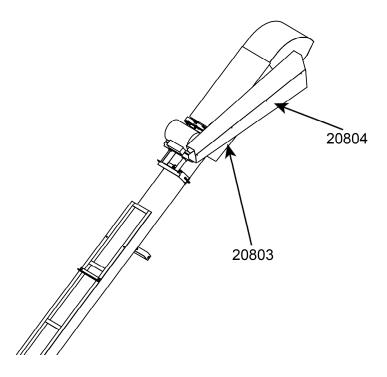


Figure 3. Hydraulic Top Drive Safety Decal Locations

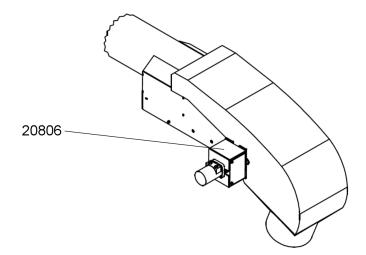




Table 1. Safety Decals

Part Number	Description				
20817	<b>A DANGER</b>				
	ELECTROCUTION HAZARD				
	To prevent death or serious injury:				
	When operating or moving, keep equipment away from overhead power lines and devices.				
	Fully lower equipment before moving.				
	This equipment is not insulated.				
	Electrocution can occur without direct contact.				
20811	<u> </u>				
	UPENDING HAZARD				
	To prevent death or serious injury:  • Anchor intake end and/or support discharge end to prevent upending.  • Do not raise intake end above tow bar height.				
	Intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.      Intake end must always have downward weight. Do not release until attached to moving.				

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Table 1 Safety Decals (continued)

# **Part Number** Description 20807 **⚠ WARNING** To prevent serious injury or death: Read and understand the manual before assembling, operating, or maintaining the equipment. • Only trained personnel may assemble, operate, or maintain the equipment. • Children and untrained personnel must be kept outside of the work area. Do not modify the equipment. Keep in good working order. • If the manual, guards, or decals are missing or damaged, contact factory or dealer for replacements. · Lock out power before performing maintenance. • To prevent equipment collapse, support equipment tube while disassembling certain components. • Electric motors must be grounded. Disconnect power before resetting overloads.

Table 1 Safety Decals (continued)

Part Number	Description				
20804	<b>⚠ WARNING</b>				
	ENTANGLEMENT HAZARD				
	<ul> <li>To prevent serious injury or death:</li> <li>Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.</li> <li>Do not operate with any guard removed or modified. Keep guards in good working order.</li> <li>Shut off and remove key or lock out power source before inspecting or servicing machine.</li> </ul>				
20803 (behind guard)	<b>⚠ WARNING</b>				
	MISSING GUARD HAZARD  To prevent serious injury or death, shut off power and reattach guard before operating machine.				

Table 1 Safety Decals (continued)

Part Number	Description		
20805	<b>⚠ WARNING</b>		
	HIGH PRESSURE FLUID HAZARD  Hydraulic fluid can cause serious injury if it penetrates the skin. If it does, see a doctor immediately.  • Relieve system pressure before repairing, adjusting or disconnecting.  • Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.		
20806	WARNING  HIGH PRESSURE FLUID HAZARD Hydraulic fluid can cause serious injury if it penetrates the skin. If it does, see a doctor immediately.  Relieve system pressure before repairing, adjusting or disconnecting.  Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.		



Table 1 Safety Decals (continued)

Part Number	Description		
17109	<b>A</b> CAUTION		
	For proper raising and lowering of equipment:		
	After lowering equipment, always tighten brake lock by turning winch handle clockwise at least two clicks.		
	Rotate winch handle until cable has light tension, when in towing position.		
	Do not lubricate winch brake discs.		
	Inspect lift cable periodically; replace if damaged.		
	Inspect cable clamps periodically; tighten if necessary.		

# 3. Features

This section covers the main features of the conveyor.

Figure 4. Typical WCX 1335 Top-Drive Conveyor Components

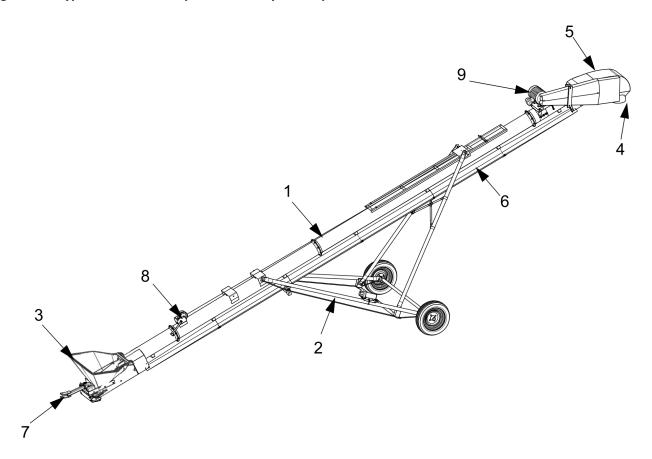


Table 2. Typical WCX 1335 Top-Drive Conveyor Components

Item	Description
1	Tube
2	A-Frame
3	Hopper
4	Spout Assembly
5	Hood

Item	Description		
6	Belt Return and Weather Guard		
7	Hitch		
8	Winch		
9	Top Drive Motor (Electric or Hydraulic)		



# 4. Assembly



Before continuing, ensure you have completely read and understood this manual's Safety section, in addition to the safety information in the section(s) below.

# 4.1. Assembly Safety

- MARNING Do not take chances with safety. The components can be large, heavy, and hard to handle. Always use the proper tools, rated lifting equipment, and lifting points for the job.
  - Carry out assembly in a large open area with a level surface.
  - Always have two or more people assembling the conveyor.
  - Make sure you have sufficient lighting for the work area.
  - Tighten all fasteners according to their specifications. Do not replace or substitute bolts, nuts, or other hardware that is of lesser quality than the hardware supplied by the manufacturer.
  - · Stay away from overhead power lines and other obstructions during assembly. Contact with power lines can cause electrocution.
  - Do not work in high winds.

# 4.2. Check Shipment

Unload the conveyor parts at the assembly site and compare the packing slip to the shipment. Ensure that all items have arrived and that none are damaged.

Report missing or damaged parts immediately to ensure that proper credit is received from Westfield or your distributor/dealer, and to ensure that any missing parts can be shipped quickly to avoid holding up the assembly process.

#### **Important**

Do not assemble or install damaged components.

## 4.3. Required Tools

•	2–3	pipe stand(s)	•	1	tape measure(s) (100' [30.5 m])
•	2	sawhorse(s) (1200 lb [544.3 kg])	•	1	ratchet strap
•	1	standard socket set(s)	•	2	C-clamp(s) or vise grip(s)
•	2	wrench set(s)	•	1	tire pressure gauge
•	1	torque wrench(es)	•	1	tire chuck
•	1	set(s) of Allen wrenches	•	1	propane torch
•	1	hammer and punch	•	1	picker
•	2	tape measure(s) (25' [7.6 m])			with minimum reach of 12' (3.7 m) and 4000 lb to 6000 lb (1814 kg to 2722 kg) lifting capacity

# 4.4. Before You Begin

Before you assemble the conveyor:

- Familiarize yourself with all the sub-assemblies, components, and hardware that make up the equipment.
- Have all parts and components on hand, and arrange them for easy access.
- Separate the hardware (bolts, nuts, etc.) and lay them out into groups for easier identification during assembly.
- If assembling inside, confirm the ceiling and door width/height provide enough clearance when installing the undercarriage and to remove the conveyor from the building.
- Ensure there is adequate space to remove the assembled conveyor from the assembly area.

# 4.5. Assemble the Conveyor Tube

1. Place the tubes on support stands to support each tube section. The support stands must be set at equal height (see Figure 5). Anchor the tubes to the stands if necessary to prevent rolling.



\*\*CAUTION Failure to secure the tubes may result in personal injury.

- 2. Confirm that all tubes are set level and oriented correctly.
- 3. Fasten tube flanges together with 7/16" x 1" bolts (2) and 7/16" locknuts (1) as each tube section is placed, starting at the hopper end and working toward the spout end. Ensure the tubes are aligned and the bolts are straight.

#### Note

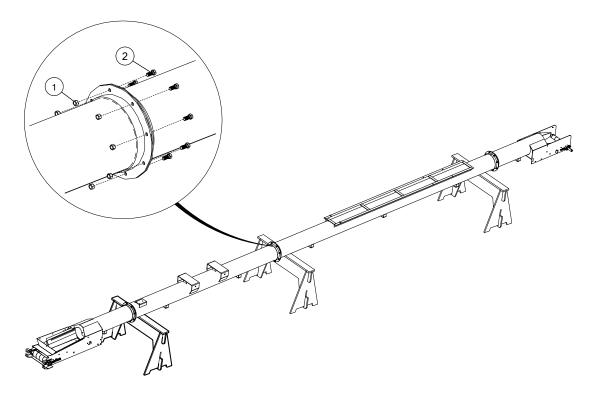
A punch can be used to assist alignment. If you are not careful, it is possible to bolt the flanges together non-concentrically with the bolts crooked through the holes.



**Table 3. Tube Connection Components** 

Item	Description
1	7/16" Locknut
2	7/16" x 1" Bolt

Figure 5. Typical Tube Connection



# 4.6. Attach the Hitch

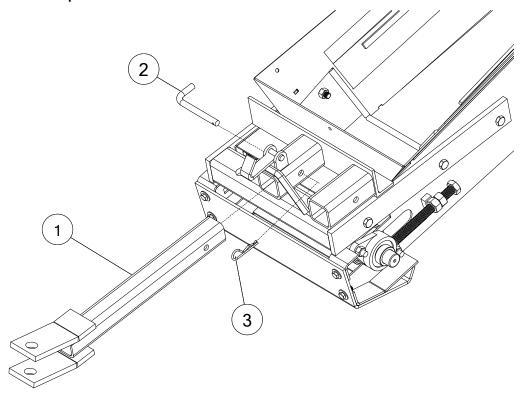
This procedure describes the installation of the hitch on the hopper weldment.

- 1. Insert the hitch (1) into the hopper hitch tube.
- 2. Secure the hitch in place using a saddle pin (2) and hairpin (3).

**Table 4. Hitch Components** 

Item	Description		
1	Hitch		
2	Saddle Pin		
3	Hairpin		

Figure 6. Hitch Components



# 4.7. Assemble the Hand Winch

1. Attach the winch handle (1) by sliding handle over the flat sides of input shaft (2) and fasten with 1/2" hex locknut (3).

#### **Important**

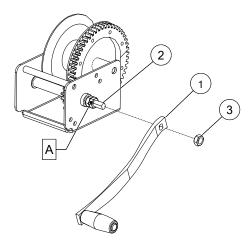
Do not remove or loosen the double locknut on the input shaft — it is an important part of the brake system of the winch.

**Table 5. Hand Winch Components** 

Item	Description
1	Winch Handle
2	Winch Input Shaft
3	1/2" Hex locknut
А	Double Locknut



Figure 7. Attaching Hand Winch Handle



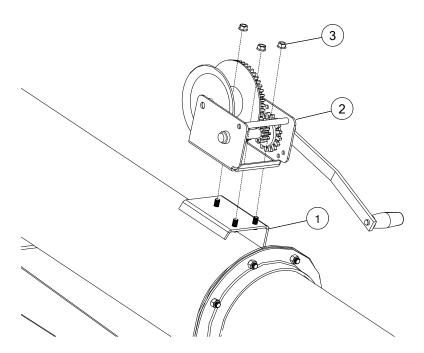
# 4.8. Install the Hand Winch

1. Attach the winch (2) to the winch mount bracket (1) with 3/8" whiz nuts (3) (see Figure 8).

**Table 6. Hand Winch Components** 

Item	Description
1	Winch Mount Bracket
2	Hand Winch
3	3/8" Whiz Nut

Figure 8. Installing the Hand Winch



## 4.9. Install the Track Shoe

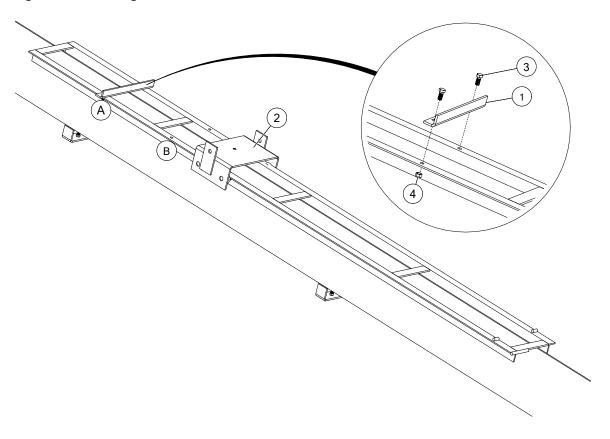
- 1. Slide the track shoe (2) onto the track by sliding shoe down from the discharge end of conveyor. See Figure 9 for proper orientation of track shoe.
- 2. Install the trackstop (1) on the track with 7/16" x 1" bolts (3) and 7/16" locknuts (4).
- a. **For Electric Motor Drive (A):** Bolt the trackstop in the first set of holes on the track (when looking from discharge end).
- b. For Hydraulic Motor Drive (B): Bolt the trackstop in the second set of holes on the track (when looking from discharge end).

**Table 7. Frame Slider Components** 

Item	Description
1	Trackstop
2	Track shoe
3	7/16" x 1" Bolt
4	7/16" Locknut
А	Trackstop location for units with electric motor drive
В	Trackstop location for units with hydraulic motor drive



Figure 9. Installing the Frame Slider



# 4.10. Assemble the Weather Guard

- 1. Install the types of weather guard sections in which are indicated by the identifier letters as shown on your particular conveyor model schematic that follows.
- 2. Connect each weather guard section to the tube brackets as indicated by the position arrows on your particular conveyor model schematic that follows. Use a uni-mount cast plate (1), 3/8" x 1-1/4" capscrew (2), and 3/8" locknut (3). Leave the 3/8" locknuts loose (see ).

**NOTICE** Overlap of the weather guard sections must be as shown to prevent belt damage.

- 3. Confirm all weather guard mount bar holes are aligned.
- 4. Tighten the 3/8" locknuts (3) after all of the weather guards have been installed.

Table 8. Types of Weather Guard

Identifier	Type of Weathe	er Guard Section
В	5' (1.52 m) Standard	
E	5' (1.52 m) Flared	

Table 9. Components to Install Weather Guard onto the Tube Bracket

Item	Description	Quantity
1	Uni-Mount Plate Cast	1
2	Capscrew 3/8" x 1-1/4" Flat Head Socket	1
3	Nylon Locknut 3/8"	1

Figure 10. Installing a Weather Guard Section

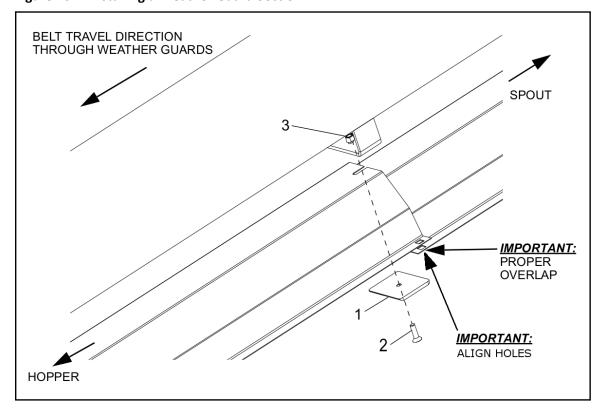
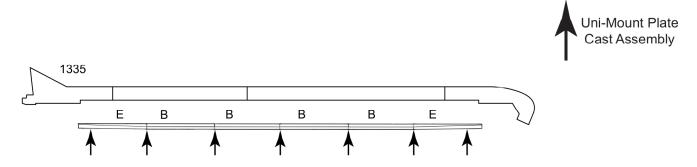




Figure 11. Weather Guard Section Locations (WCX 1335)



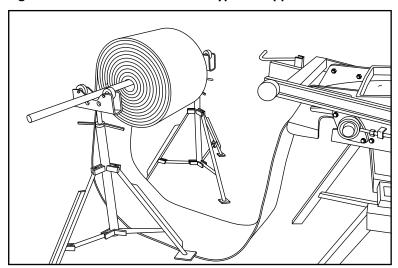
## 4.11. Install the Belt

This section describes how to install the conveyor belt in the tube. Refer to the packing slip for the length of the conveyor belt used in the installation.

#### Thread a Fish Tape through the Conveyor Tube

- 1. Place the rolled belt on a stand behind the hopper.
- 2. Pull the conveyor belt over the top of the hopper roller, until just inside the hopper, as shown below.

Figure 12. Rolled Belt Behind a Typical Hopper



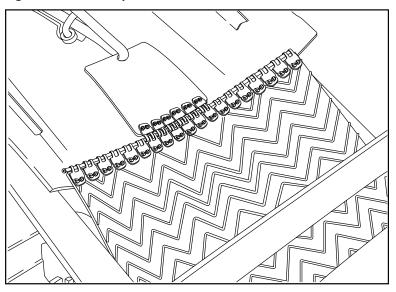
- 3. Feed a fish tape in at the spout, through the tube, and into the hopper.
- 4. Attach the end of the belt to the fish tape using a clamp, or use a short piece of belt and thread the connector wire through the lacing clips to connect.

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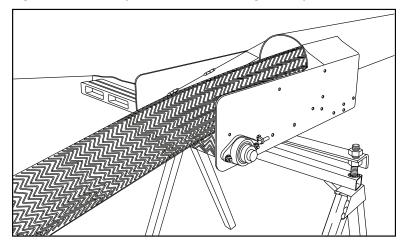
Figure 13. Fish Tape Connected to a Short Piece of Belt



#### **Thread the Conveyor Belt**

1. From the spout end, pull the fish tape until the belt emerges from the spout.

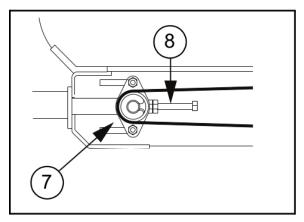
Figure 14. Conveyor Belt Pulled Through the Spout



- 2. Wrap the belt around the spout roller and pull it back under the conveyor tube to the hopper until approximately 6' (1.8 m) of excess belt remains on the stand behind the hopper.
- 3. Wrap the remaining conveyor belt around the hopper roller (7) and under the tube.



Figure 15. Conveyor Belt Around Hopper Roller



Item	Description
7	Hopper Roller
8	Take-up Bolt

The conveyor belt is now ready to be connected.

#### **Connect the Conveyor Belt**

- 1. Attach a strap puller (1) to each end of the belt and secure with vise-grips (2).
  - **NOTICE** Do not attach the vise grips too tightly, this can damage the belt.
- 2. Pull the ends of the belt together.
- 3. Install connector wire through the belt lacing (3).

Figure 16. Using a Strap Puller

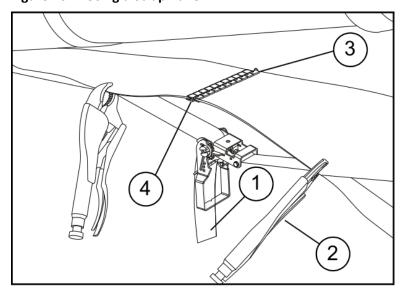
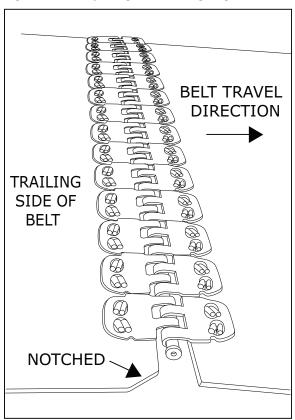


Figure 16 Using a Strap Puller (continued)

Item	Description
1	Strap Puller
2	Vise Grip
3	Belt Lacing
4	Lacing Pin

4. On both corners of the trailing edge of the belt, trim a tapered notch to prevent fraying.

Figure 17. Tapering the Trailing Edge of the Belt



#### **Tighten the Conveyor Belt**

Use the hopper roller bolts to set the belt tension.

- 1. Tighten the hopper roller bolts until the conveyor belt deflects 1–2" when pushed down with a 5 lb force.
- 2. Measure to be sure both sides are set at the same position.

The belt will require final tension and alignment after the conveyor is fully assembled.

## 4.12. Install the Weather Guard Mount Bars

1. Install the types of mount bar assemblies in which are indicated by the position arrows and identifier letters as shown on your particular conveyor model schematic that follows.



- 2. Adjust the position on all weather guards and mount bars to achieve the best fit.
- 3. Tighten all nuts.

**Table 10.** Weather Guard Mount Bar Components

Item	Description
1	Mount Bar (Cross Bar with No Roller)
2	Mount Bar with Roller
3	Belt Guide Nylon Blocks
4	7/16" x 1" Carriage Bolt
5	7/16" Nylon Locknut
6	5/16" x 1-1/2" Carriage Bolt
7	5/16" Lock Nut

Figure 18. Mount Bar Assemblies

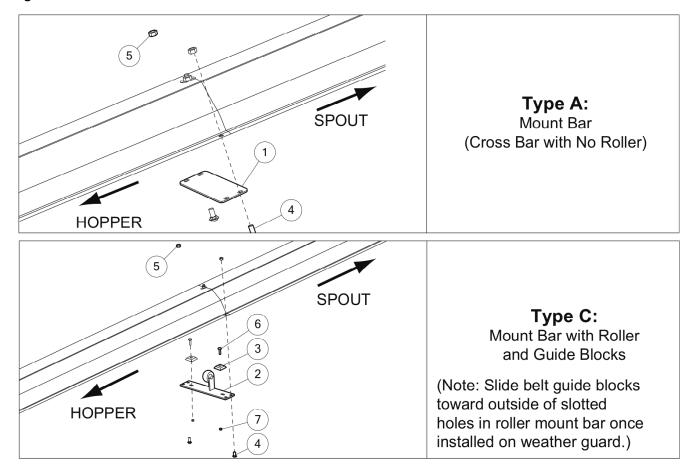
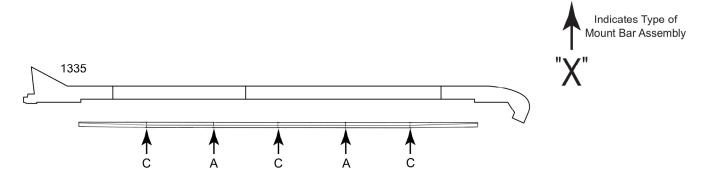


Figure 19. Mount Bar Schematic Diagram (WCX 1335)



# 4.13. Install the Collapsible Hopper Cloth

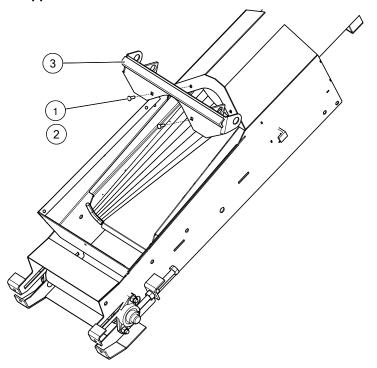
### **Install the Hopper Shield**

1. Install the hopper shield (3) onto the conveyor frame using 3/8" x 1" carriage bolts (1) and 3/8" locknuts (2).

**Table 11. Hopper Shield Components** 

Item	Description
1	3/8" x 1" Carriage Bolt
2	3/8" Locknut
3	Hopper Shield

Figure 20. Installing the Hopper Shield





#### **Install the Hopper Cloth Frame**

1. Slide the upper side frames (1) into the hopper cloth (2) (see Figure 21).

#### Note

Apply grease to frame pieces if required.

#### Note

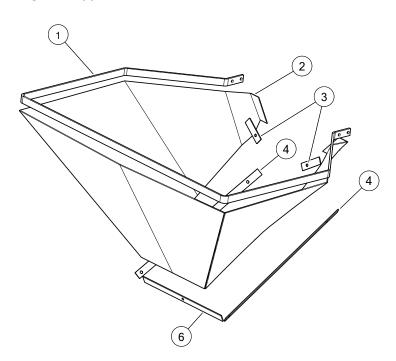
Steps 2–4 will be performed later in the hopper cloth installation.

- 2. Slide the two lower side frames (4) into the hopper cloth.
- 3. Slide the lower front frame (6) into the hopper cloth.
- 4. Slide the two lower back frames (3) into the hopper cloth.

**Table 12. Hopper Cloth Frame Components** 

Item	Description
1	Upper side frame
2	Hopper cloth
3	Lower back frame
4	Lower side frame (long)
6	Lower front frame

Figure 21. Installing the Hopper Cloth Frame



#### **Install the Flashing**

1. Lay the front flashing (1) on the hopper while ensuring it is flush with the edge of the main hopper frame (see Figure 22).

#### Note

The textured side of the flashings should be facing down.

- 2. Lay the side flashings (2) on the hopper while ensuring they are flush with the edge of the main hopper frame and overlapping the front flashing.
- 3. Use a small propane torch or other heat source to warm and shape the flashing so that it conforms to the belt. Keep the heat source at a distance far enough from the flashing to prevent burning.

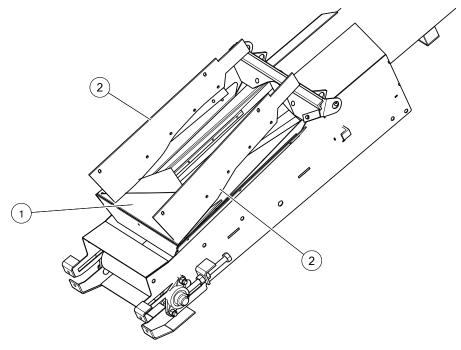
#### Note

Ensure there is no gap between front flashing and belt.

Table 13. Flashing

Item	Description
1	Front flashing
2	Side flashing

Figure 22. Installing the Flashing



#### **Install the Pivot Shaft**

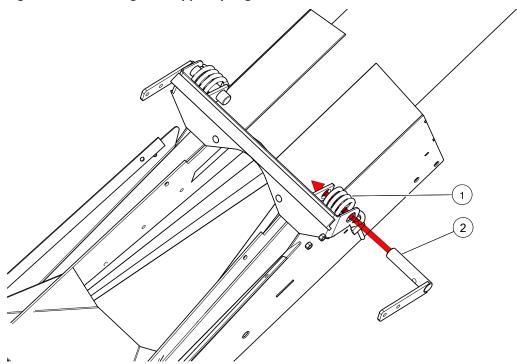
- 1. Position the hopper springs (1) between the tabs of the hopper shield (see Figure 23).
- 2. Slide the shaft brackets (2) through the hopper spring and tabs of the hopper shield.

**Table 14. Pivot Shaft Components** 

Item	Description
1	Hopper spring
2	Shaft bracket



Figure 23. Installing the Hopper Springs and Shaft Brackets

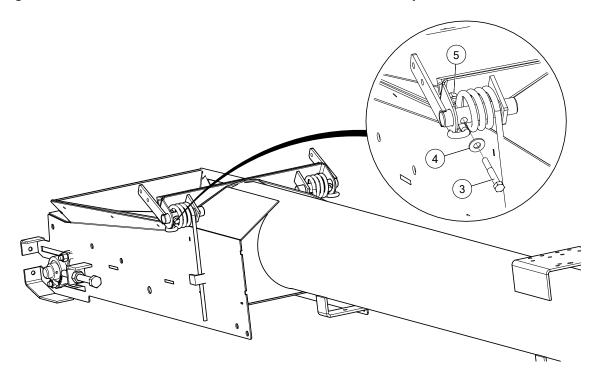


- 3. Clip the hopper springs over the tabs on the hopper and shaft bracket (see Figure 24).
- 4. Fasten a 3/8" x 2-1/2" bolt (3), 3/8" washer (4), and 3/8" nut (5) on the shaft bracket such that the loop on the spring captures the bolt.

**Table 15. Pivot Shaft Components** 

Item	Description
3	3/8" x 2-1/2" Hex Bolt
4	3/8" Flat Washer, Plated USS
5	3/8" Nylon Locknut

Figure 24. Orientation of the Shaft Bracket for 1300 Series Conveyors



#### **Install the Hopper Cloth**

- 1. Attach the side frames (1) to the shaft brackets (2) using 5/16" x 1" hex bolts (3) and 5/16" whiznuts (4).
- 2. Pull the hopper cloth down so that the lower frame touches the front flashing.
- 3. Attach the hopper cloth to the conveyor:
  - First, attach the front of the hopper cloth to the front flashing.
  - Drill through the hopper cloth, lower frame, and flashing using the existing holes in the conveyor as a guide.
  - Use 1/4" x1-1/4" elevator bolts (5) and 1/4" whiznuts (6).
- 4. Attach the lower back frame (9) of the hopper cloth to the hopper using self-tapping screws (7), 1/4" flat washers (8) and vinyl screw caps (11).
- 5. Install trimlock (10) onto the upper frame of the hopper cloth.

Table 16. Components for Installing the Hopper Cloth onto the Conveyor

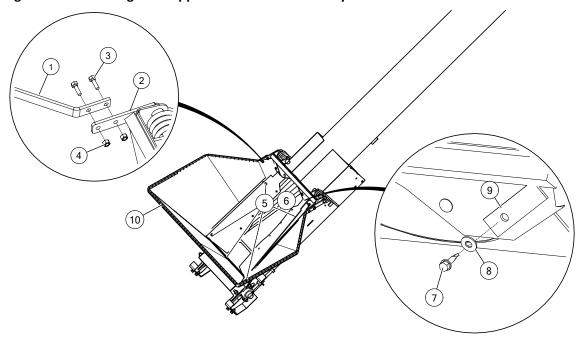
Item	Description
1	Upper side frame
2	Shaft Bracket
3	5/16" X 1" Hex Bolt
4	5/16" Whiznut
5	1/4" X 1-1/4" Elevator Bolt
6	1/4" Whiznut
7	Self-tapping Screw



Table 16 Components for Installing the Hopper Cloth onto the Conveyor (continued)

Item	Description
8	1/4" Flat Washer
9	Lower Back Frame
10	Trimlock
11	Vinyl Screw Cap (not shown)

Figure 25. Installing the Hopper Cloth onto the Conveyor



# 4.14. Install the Spout Hood

- 1. Place the hood (2) around the bearing assembly (see Figure 26).
- 2. Use 1/4" x 1" self-tapping screws (3) and 1/4" flat washers (4) to tighten the hood (2) to the conveyor spout (1).

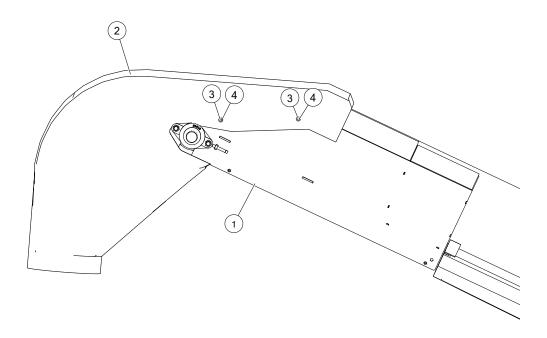
#### Note

Make sure the screws will not interfere with belt operation.

**Table 17. Spout Hood Components** 

Item	Description	Quantity
1	Spout Assembly	1
2	Hood	1
3	1/4" x 1" Self-Tapping Screw	4
4	1/4" Flat Washer	4

Figure 26. Installing Spout Hood



## 4.15. Assemble the Wheel Hub

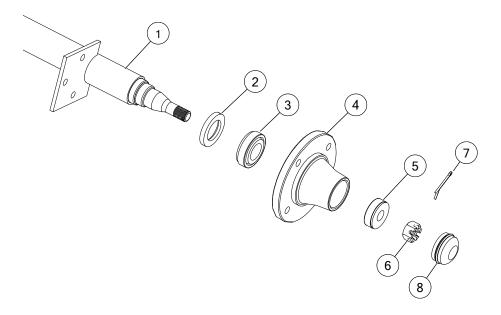
- 1. Remove any dirt or paint from the spindle of the axle (1) and hub (4).
- 2. Thoroughly pack the wheel bearings (3, 5) and cups with a good grade of bearing grease.
- 3. Place the large bearing (3) into the hub (4) and carefully tap in seal (2).
- 4. Slip the hub onto the axle spindle and insert the small bearing (5).
- 5. Tighten 3/4" slotted nut (6) until hub drags slightly. Back off nut about 1/4" turn until the hub turns freely.
- 6. Install 1/8" x 1-1/2" cotter pin (7) and dust cap (8).

Table 18. Wheel Hub Components

Item	Description
1	Axle Weldment
2	Seal
3	Large Bearing
4	Hub
5	Small Bearing
6	3/4" Slotted Nut
7	1/8" x 1-1/2" Cotter Pin
8	Dust Cap



Figure 27. Wheel Hub



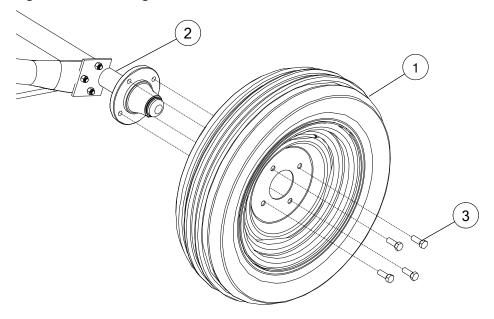
## 4.16. Install the Wheels

- 1. Check if the pressure of tires matches the pressure indicated on the tire sidewall.
- 2. Mount the wheels (1) to the axle (2) using 1/2" x 1-3/4" wheel bolts (3) (see Figure 28).

Table 19. Components to Attach the Wheels to the Axle

Item	Description	
1	Tire Assembly	
2	Axle	
3	1/2" x 1-3/4" Wheel Bolt	

Figure 28. Attaching the Wheels to the Axle



# 4.17. Assemble the Undercarriage

Ensure the wheels are mounted to the axle before beginning this procedure.

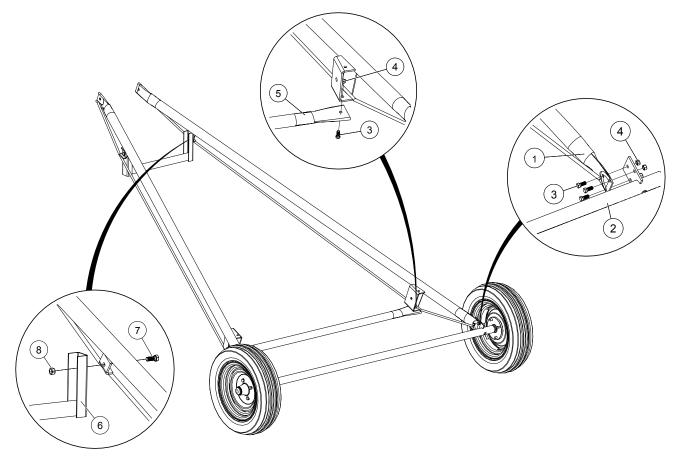
- 1. Fasten the lower reach arms (1) to the axle (2) using 7/16" x 1" bolts (3) and 7/16" locknuts (4). Refer to Figure 29 and Table 20.
- 2. Attach long tubular cross member (5) to the lower reach arm bracket near the axle using two 7/16" x 1" bolts (3) and 7/16" locknuts (4).
- 3. Attach short tubular cross member (6) to the opposite end of the lower reach arm bracket using two 1/2" x 1-1/4" bolts (7) and 1/2" locknuts (8).

Table 20. Lower Reach Arms and Cross Member Components

Item	Description
1	Lower Reach Arm
2	Axle Weldment
3	7/16" x 1" Bolts
4	7/16" Locknuts
5	Long Tubular Cross Member
6	Short Tubular Cross Member
7	1/2" x 1-1/4" Bolt
8	1/2" Locknuts



Figure 29. Attaching Lower Reach Arms and Cross Member



- 4. Lift the spout end of the tube with a front end loader and a strong sling/chain or block and tackle. The height should be sufficient to clear undercarriage assembly.
- 5. Position the undercarriage assembly beneath the conveyor assembly.
- 6. Attach the lower reach arms (1) to the reach-arm bracket with two 5/8" x 1-1/2" bolts (9) and 5/8" locknuts (10), see Figure 30 and Table 21:
- a. For Hydraulic Motor Drive (A): Bolt the lower reach arms to the reach-arm bracket nearest to the hopper end.
  - b. For Electric Motor Drive (B): Bolt the lower reach arms to the reach-arm bracket nearest to the spoutend.

#### Note

Do not over tighten. Tighten snug only, these bolts act as pivot points.

- 7. Fasten the lift arms (11) to the lower reach arms (1) using two 5/8" x 1-1/2" bolts (9) and 5/8" locknuts (10).
- 8. Slide two tube clamps (12) over the flat pressed ends of the lift arms (11).
- 9. Attach the lift arms (11) to the track shoe using 5/8" x 1-1/2" bolts (9) and 5/8" locknuts (10).

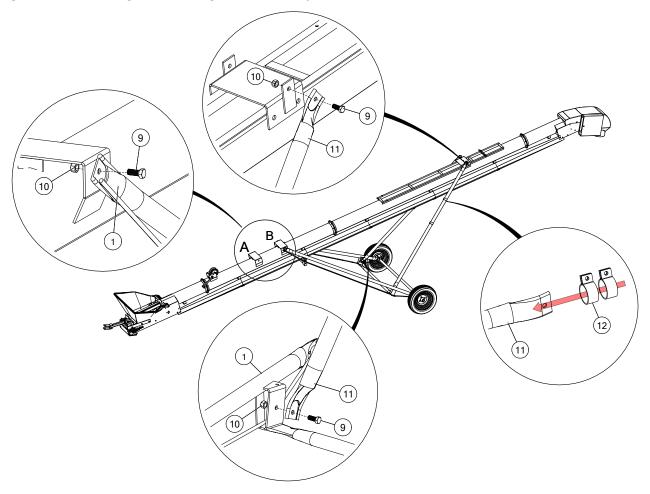
#### Note

Do not over-tighten. Tighten snug only, these bolts act as pivot points.

**Table 21. Lift Arm Components** 

Item	Description
9	5/8" x 1-1/2" Bolt
10	5/8" Locknuts
11	Lift Arms
12	Tube Clamp
А	Bolt Location with Hydraulic Motor Drive
В	Bolt Location with Electric Motor Drive

Figure 30. Attaching Undercarriage to the Conveyor Tube



- 10. Attach the tubing cross brace supports (13), see Figure 31 and Table 22:
  - a. Slide the tube clamp (12) up and loosely attach one tubing cross brace support (13) with 1/2" x 1-1/4" bolts (7) and 1/2" locknuts (8).
  - b. Attach the other end of the brace support to the lower tube clamp on the opposite lift arm.
  - c. Use a c-clamp vise grip to squeeze and hold the tube clamps in place.
  - d. Follow Step a Step c to attach the second tubing cross brace.

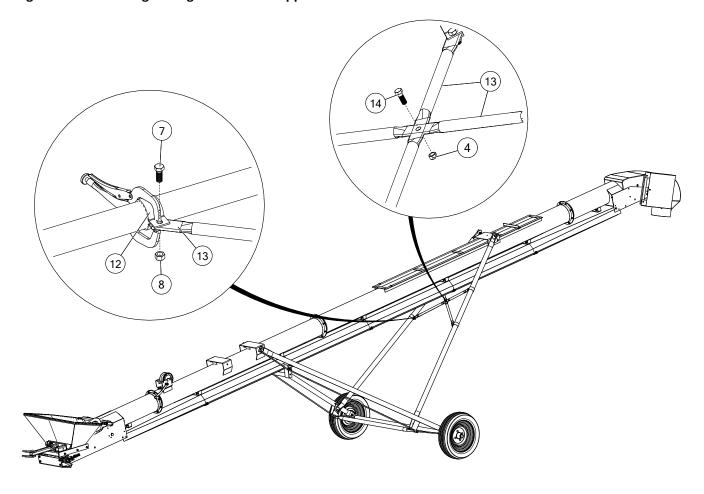


- e. Bolt the tubing cross brace supports together in the center where they cross with 7/16" x 1-1/4" bolts (14) and 7/16" locknuts (4).
- f. Once in position, tighten the bolts.

**Table 22. Tubing Cross Brace Supports Components** 

Item	Description
4	7/16" Locknuts
7	1/2" x 1-1/4" Bolt
8	1/2" Locknuts
12	Tube Clamp
13	Tubing Cross Brace Support
14	7/16" x 1-1/4" Bolt

Figure 31. Attaching Tubing Cross Brace Supports



11. Lower tube and remove vise grips.

**WARNING** Do not remove the tube support(s) until the conveyor is fully assembled.



### 4.18. Install the Tube Lift Cable

- 1. Wrap the cable (1) around the bottom side of the winch drum with three complete wraps around the drum when conveyor is in transport position (see Figure 32).
  - WARNING Failure to follow could result in conveyor collapse and cause serious injury.
- 2. Thread cable onto drum and secure with spool anchor. Nuts must be on the outside of the winch drum to prevent damage to the cable (see Figure 33).
- 3. Run the cable towards the spout and thread it through the track shoe pulley.
- 4. Run the cable from the track shoe pulley towards the hopper and stop at the cable attach (3).
- 5. Loop the cable under and around the cable attach and secure it with two 1/4" cable clamps (2).
- 6. Trim excess cable.
- 7. Test the function of the winch by lifting the conveyor to its raised position.

**⚠ WARNING** 

Crushing/impact hazard

Do not stand under the conveyor while testing the winch. The conveyor may drop unexpectedly. Ensure all equipment and personnel are clear of the conveyor while testing the winch.

NOTICE

The tube lift components may become damaged.

Stop the test if anything should slide, slip, or jam. Correct the issue before continuing.

**Table 23. Tube Lift Cable Components** 

Item	Description
1	1/4" Winch Cable
2	1/4" Cable Clamp
3	Cable Attach
А	From Winch
В	To Cable Attach



Figure 32. Installing the Tube Lift Cable

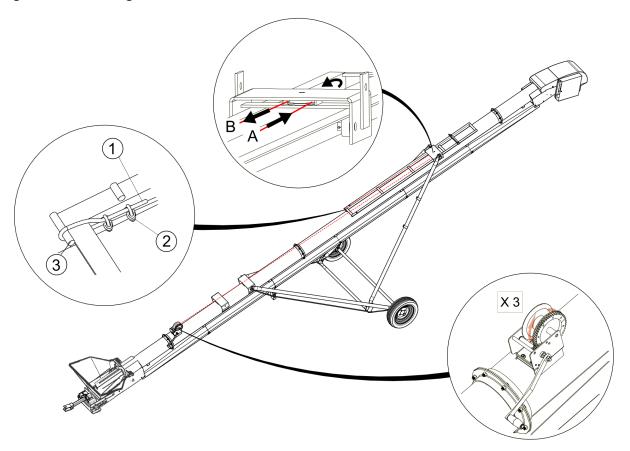
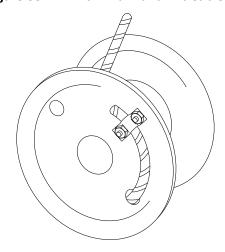


Figure 33. Winch Drum and Lift Cable



# 4.19. Electric Motor Drive (Option A)

#### **Install the Motor Mount**

- 1. Measure and mark 127 mm (5") from the inside of the angle ring on the spout tube, see Figure 34.
- 2. Position the edge of the motor mount bracket over the marked distance.

3. Loosely secure motor mount bracket (1) and 10" hitch ring (2) onto the conveyor tube using six 7/16" x 1" bolts (3) and 7/16" locknuts (4).

#### Note

Orient the motor mount bracket precisely as shown in Figure 34.

- 4. Attach the motor mount (5) to the motor mount bracket using hinge rod (6) and 1/8" x 1-1/2" cotter pin (7) (see Figure 35).
- 5. Level the motor mount with adjust bolt (8) and 5/8" hex nut (9).
- 6. Using a level, rotate the hitch ring until the motor mount and bracket are level with the track.
- 7. Tighten all bolts and locknuts.

**Table 24.** Drive Mount Components

Item	Description
1	Motor Mount Bracket
2	10" Hitch Ring
3	7/16" x 1" Bolt
4	7/16" Locknut
5	Motor Mount
6	Hinge Rod
7	1/8" x 1-1/2" Cotter Pin
8	Adjust Bolt
9	5/8" Hex Nut



Figure 34. Motor Mount Bracket

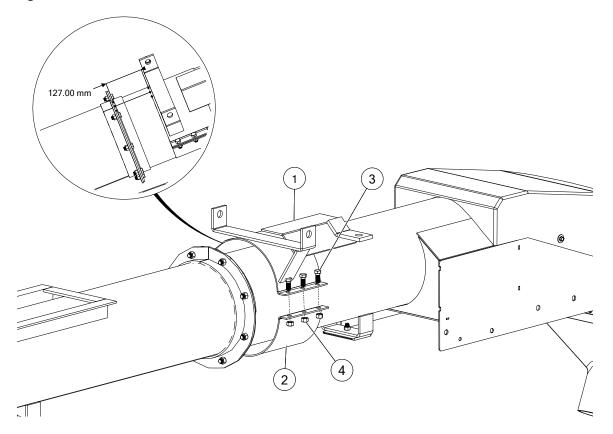
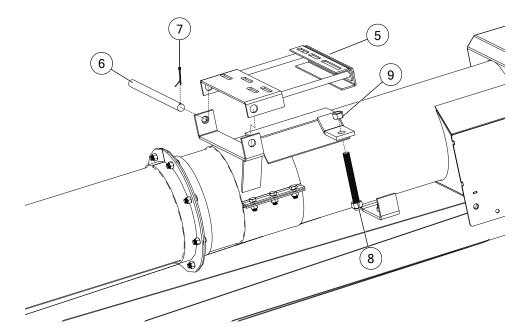


Figure 35. Motor Mount



#### **Install the Motor**

1. Install the electric motor on the motor mount. Do not tighten at this time.

2. Route the power cord from the motor toward the intake end through the brackets underneath the tube and out to the power source.

NOTICE

Ensure cord does not interfere with operation of track shoe or cord damage will occur.

#### **Important**

Installation and wiring for the electric motor are to be done by a certified technician and should be based on OEM (original equipment manufacturer) specifications.

#### **Install the Pulleys and Belts**

- 1. Install the pulleys (1, 2) onto the motor and drive shafts (see Figure 36). See Recommended Pulley Size on page 49.
- 2. Insert 1/4" x 2-1/2" key (3). Do not tighten pulley set screw until belt is aligned.
- 3. Align the pulleys with a straightedge.
- 4. Tighten motor base bolts and tighten the pulley set screws.

#### **Important**

Once all bolts and set screws are tightened, re-check alignment. Proper alignment will prolong belt life

- 5. Install the belt (4).
- 6. Set the belt tension by tightening the adjust bolt.

#### Note

Belts should deflect 1/2" (1.27 cm) to 3/4" (1.91 cm) when pushed on with a 5 lb (22.2 N) force.

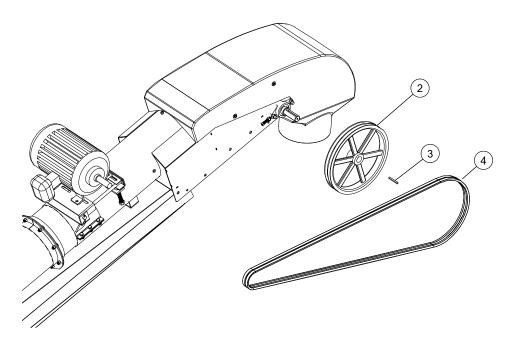
7. Tighten the 5/8" hex nut to the motor mount bracket. See Figure 35 on page 47.

Table 25. Pulleys and Belt

Item	Description
1	Motor Pulley (not included)
2	15" x 1-1/4" Double B Groove Pulley
3	1/4" x 2-1/2" Square Key
4	Belt — B124



Figure 36. Installing the Pulleys and Belt



#### **Recommended Pulley Size**

Conveyor Size	Conveyor Pulley	Motor Pulley	<sup>1</sup> Belt Speed (ft/min)
All Madala	15"	4.0"	481
All Models	15"	4.25"	511
<sup>1</sup> Speed is calculated using a 1	725 rpm electric motor.		

To determine belt speed (ft/min):

- 1. Divide the speed (rpm) of the motor by the outside diameter of the conveyor pulley.
- 2. Multiply by the outside diameter of the motor pulley.
- 3. Multiply by the circumference of the drive roller (4" diameter).
- 4. Divide by 12 to get ft/min.

**Example:** 1725 rpm  $\div$  15" x 4.25" x (3.14 x 4")  $\div$  12 in/ft = 511 ft/min

#### Note

If a slower belt speed is desired, install a smaller motor pulley.

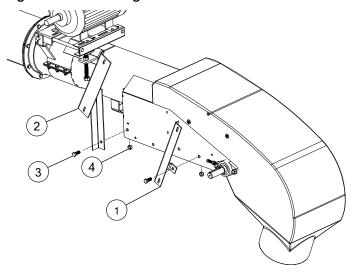
#### **Install the Pulley Guard**

1. Attach guard mounts (1, 2) to spout weldment using two 1/2" x 1-1/4" bolts (3) and 1/2" locknuts (4) (see Figure 37). Do not tighten. Guard mounts should be able to pivot.

**Table 26. Guard Mounts** 

Item	Description
1	Upper Guard Mount
2	Drive Guard Mount
3	1/2" x 1-1/4" Bolt
4	1/2" Locknut

Figure 37. Attaching Guard Mounts



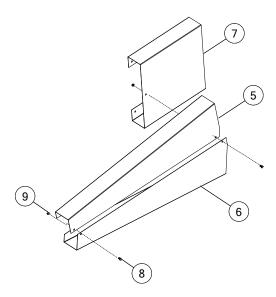
2. Assemble pulley shields (5, 6) and extension (7) using 1/4" x 1/2" bolts (8) and 1/4" whiznuts (9) (see Figure 38).

**Table 27. Pulley Guard Components** 

Item	Description					
5	Pulley Shield					
6	Pulley Shield					
7	Pulley Shield Extension					
8	1/4" x 1/2" Bolt					
9	1/4" Whiznut					



Figure 38. Assembling Pulley Guard

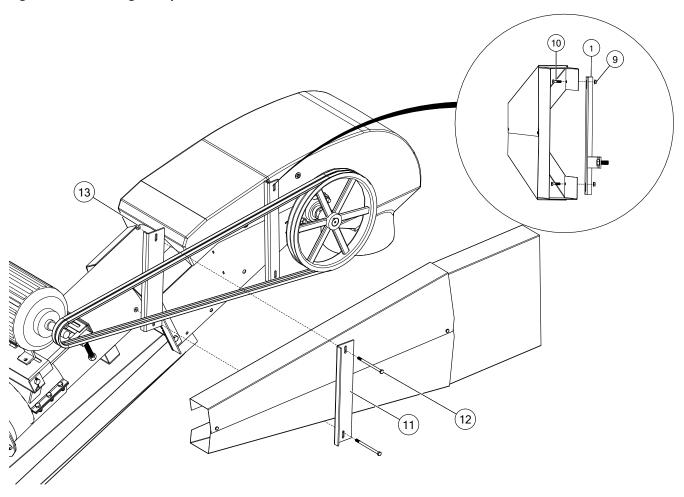


- 3. Hold and center the pulley guard over the belt and pulley (see Figure 39).
- 4. Attach the pulley guard to the upper guard mount (1) using 1/4" x 1" bolts (10) and 1/4" whiznuts (9). Do not tighten. Pulley guard should be able to pivot.
- 5. Install the attach bracket (11) to the drive guard mount (2) using 5/16" x 5" bolts (12) and 5/16" whiznuts (13).

Table 28. Securing Pulley Guard

Item	Description					
9	1/4" Whiznut					
10	1/4" x 1" Bolt					
11	Attach Bracket					
12	5/16" x 5" Bolt					
13	5/16" Whiznut					

Figure 39. Securing Pulley Guard



# 4.20. Hydraulic Drive (Option B)

### **Install the Bearing Mount Plate**

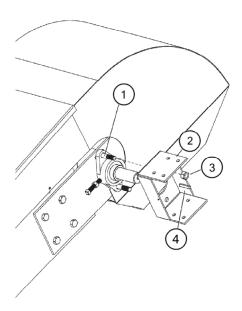
- 1. Remove the drive roller bearing bolts and replace with two 1/2" x 2-3/4" bolts (1) from the kit.
- 2. Loosely fasten the mount plate (2) to the bearing using 1/2" locknut (3).
- 3. Install the 1/4" x 1-1/2" square key (4) into the drive roller shaft.

**Table 29. Motor Mount Components** 

Item	Description				
1	/2" x 2-3/4" Bolt				
2	Bearing Mount Plate				
3	1/2" Locknut (removed from bearing)				
4	1/4" x 1-1/2" Key				



Figure 40. Installing the Bearing Mount Plate



#### **Install the Hydraulic Motor and Guards**

1. Slide the hydraulic motor assembly (1) onto the drive roller shaft. Ensure that the chain coupler is seated properly.

#### Note

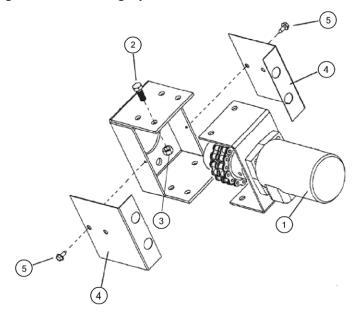
Orient sprocket and chain assembly to ensure the sprocket slides onto the shaft.

- 2. Align the holes on the bearing mount plate and hydraulic motor assembly. Secure both pieces using four 3/8" x 1" bolts (2) and 3/8" locknuts (3).
- 3. Tighten the bolts on the bearing mount plate.
- 4. Install the hydraulic drive shields (4) using 5/8" self-tapping screws (5).

Table 30. Hydraulic Motor and Guards Components

Item	Description					
1	Hydraulic Motor Assembly					
2	3/8" x 1" Bolt					
3	3/8" Locknut					
4	Hydraulic Drive Shield					
5	#14 x 5/8" Self-tapping Screw with Washerhead					

Figure 41. Installing Hydraulic Motor and Guards



5. Attach and secure hydraulic hoses to the motor.

#### Note

Hydraulic hoses and couplers are not included.

Table 31. Recommended Hydraulic Hose Size

Description	Quantity
3/8" Hydraulic Hose, 3000 psi rated, 1/2" NPT male solid x 1/2" NPT male solid, minimum length of 35' (depending on the location of the hydraulic power source)	2

6. Route hydraulic hoses down through the brackets underneath the tube toward the intake end and to the tractor.



Ensure hydraulic hose does not interfere with operation of track shoe or hose damage will occur.

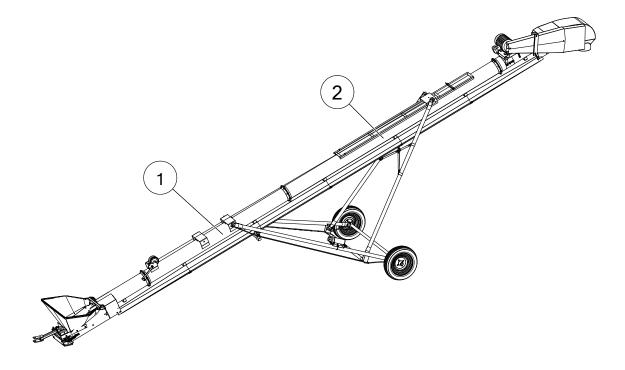
## 4.21. Decal Placement

- 1. Place the model decal (1) on both sides of the lower conveyor tube, see Figure 42. Ensure that each decal is centered on each side of the tube.
- 2. Place the Westfield decal (2) on both sides of the upper tube below the discharge end. Ensure that each decal is centered on each side of the tube.

Table 32. Decals

Item	Description	Quantity
1	Model decal placement, both sides of the tube	2
2	Westfield decal placement, both sides of the tube	2

Figure 42. Decal Placement



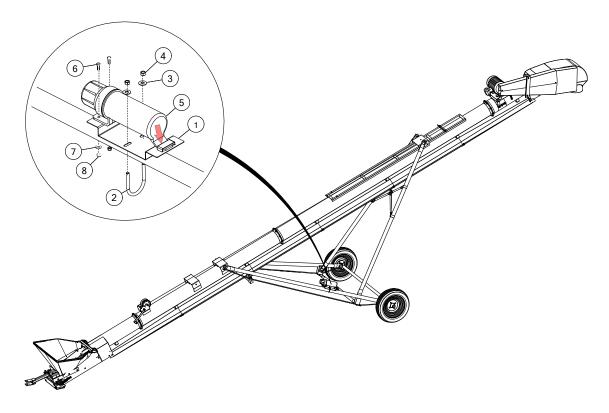
#### Note

Take care when removing the backing from the decal, as the numbers/letters may try to pull away from the tube surface.

## 4.22. Install the Manual Container

- 1. Attach the manual holder bracket (1) to the lower reach tube using a 3/8" x 2-1/2" u-bolt (2), two 3/8" flat washers (3), and two 3/8" locknuts (4).
- 2. Slide the tab on the bottom of the manual holder (5) into the raised slot in the bracket.
- 3. Secure the manual holder to the bracket using two 1/4" x 3/4" bolts (6), 1/4" flat washers (7), and 1/4" locknuts (8).

Figure 43. Manual Container



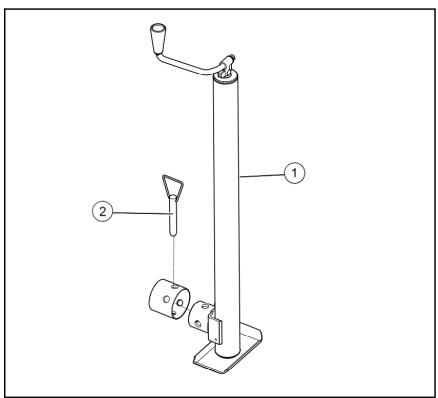
Item	Description					
1	Manual Holder Mount					
2	3/8" x 2-1/2" U-bolt Plated					
3	3/8" Flat Washer					
4	3/8" Locknut					
5	Plastic Manual Holder					
6	1/4" x 3/4" Bolt					
7	1/4" Flat Washer					
8	1/4" Locknut Plated					



# 4.23. Attach the Jack

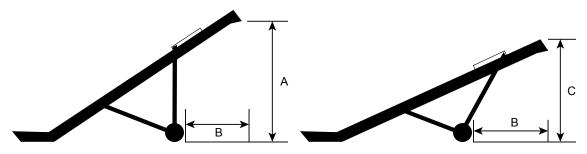
- 1. Insert the jack (1) into the jack stub (located on the conveyor hitch) (see Figure 44).
- 2. Secure the jack in place with the pin (2) provided.

Figure 44. Attaching the Jack



Item	Description
1	Jack
2	Pin

# 5. Specifications



Model	Belt Length	Weight Ibs	Up-Operation		Down - Transport		Width		HP HYD.
			A (ft)	B (ft)	C (ft)	B (ft)	(ft)	HP Elec	(in³)
WCX 1335 — Electric	72'	995	17	12.5	10.5	13	10.5	5	N/A
WCX 1335 — Hydraulic	72'	995	17	14	10	15	10.5	N/A	4.5*

<sup>\*</sup>Hydraulic motor supplied with hydraulic drive kit. H Series motor (4.5in³) requires 12 — 16 gal/min.



# 6. Westfield Conveyor Warranty

Westfield Industries Ltd. warrants products of its manufacture against defects in materials or workmanship under normal and reasonable use. The warranty period for the Product shall be one year from delivery of the Product to the Buyer where the Product is used in a normal farm operation. The warranty period for the Product shall be 90 days from delivery of the Product to the Buyer where the Product is used in a commercial operation. No warranty is given where the Product was used to convey canola. In the event that any part incorporated into the Product is manufactured and sold to the Seller by a third party vendor, such part is only warranted to the extent of the warranty given by that third party.

Our obligation under this warranty is limited to repairing, replacing, or refunding defective part or parts which shall be returned to a distributor or a dealer of our Company, or to our factory, with transportation charges prepaid. This warranty does not obligate Westfield Industries Ltd. to bear the cost of labor in replacing defective parts. Any defects must be reported to the Company before the end of the warranty period.

This warranty shall not apply to equipment which has been altered, improperly assembled, improperly maintained, or improperly repaired so as to adversely affect its performance. Westfield Industries Ltd. makes no express warranty of any character with respect to parts not of its manufacture.

The foregoing is in lieu of all other warranties, expressed or implied, including any warranties that extend beyond the description of the product, and the IMPLIED WARRANTY of MERCHANTABILITY is expressly excluded.





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