

Owner's Manual

15 Series Top Drive Grain Belt Conveyors

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Toll Free 1-866-427-2638 www.brandt.ca



Pre-delivery Inspection Sheet

To the Dealer

In order to ensure that this Belt Conveyor will provide your customer with many years of trouble free service, please ensure that the following Dealer Inspection has been performed.

DEALER INSPECTION REPORT

General

- ____Wheel Nuts Tight. (80 ft-lbs.)
- _____Tire Pressure as per sidewall marking.
- ____Drive belts aligned and tensioned correctly.
- ____Verify via the safety section that ALL safety decals in place and legible.
- ____Tube flange bolts are tight.
- ____All fasteners are tight.
- Paint scratches are touched up.
- ____Intake and discharge bearing set screws are tight.
- ____All safety shields and guards are installed and secure.
- ____All pivot points, U-Joints and PTO shafts have been lubricated.
- ___Conveying belt is installed in proper direction - as per assembly section.
- ____Conveying belt is routed correctly as per assembly section.
- ____The outside lug of one of the outer lacing clips has been squeezed tightly against the lacing pin - look for squeeze mark.
- _____Silicone is spread over lacing and pin.
- ____Referring to the Intake, ensure the conveyor belt is installed under BOTH flashing strips as per assembly section.

- Intake hopper fabric is not torn, the seam is to the outside of hopper and the plastic trim is installed.
- ____All roller shaft ends are sprayed with corrosion inhibitor.
- _____Wind Guard plates are shingled properly.
- _____Transport Stop is correctly positioned. Refer to assembly section.
 - ___All applicable service bulletins performed.
- _____If equipped, the downspout and buckets are installed properly.

Run In

- ____Conveyor has been elevated and lowered without any problems.
- Ensure the belt has been tensioned to be in the middle of the green zone on the decal.
- Engage the drive and be sure the belt starts to move without any slippage.
- Conveyor has been run slowly to check the belt tracking first at the Intake and then at the Discharge.
- Conveyor has been run for 20 minutes and the conveying belt alignment has been checked and adjusted.
- The lacing pin has been checked to make sure it is still in place.

- Conveyor has been checked for unusual noises and vibration.
- Conveying belt has been re-tensioned after run in.

Time one complete rotation of belt and check on decal for proper speed.

____lf equipped, the hydraulic drive system has been checked for leaks.

Date_____ Dealer's Signature: _____

Table of Contents

CHAPTER 1	Introduction1
	1.1 Operator Orientation 1 1.2 Safety Awareness Sign Off Form 2 1.3 General Specifications 3
	1.4 Description and Location of Major Components4
CHAPTER 2	Important Safety Information5
	2.1 Safety Symbols / Signal Words
CHAPTER 3	Assembly
	3.1 Preparing the Assembly Site
	3.4 Hydraulic Drive Option
CHAPTER 4	Operation
	4.1 Principles of Operation394.2 Setup for Operation of a New Machine404.2.1 Before running the new Conveyor404.2.2 Initial Break-in40
	4.3 Pre-Operation Checklist
	4.5 Discharge Hood Adjustment 42 4.6 Conveyor Drives and Lock Out 42 4.6.1 Electric Motor 42 4.6.2 Hydraulic Power 42

	4.7 Full Load Operating	
	4.8 Cold Weather Operation	
	4.9 Oilseed & Fertilizer Operation	
	4.10 Conveyor Shutdown	
	4.10.1 Normal Shutdown	
	4.10.2 Emergency Shutdown	
	4.11 Clean Up and Storage	
	4.12 Transport	
CHAPTER 5	Maintenance	. 47
	5.1 Fluids and Lubricants	
	5.2 Lubrication	
	5.3 Service Intervals	
	5.3.1 10 Hours or Daily	
	5.3.2 Annually	
	5.4 Conveying Belt Tension and Alignment	
	5.4.1 Adjusting the Belt Tension	
	5.4.2 Belt Alignment	
	5.4.2.1 Checking the Alignment	49 40
	5.5 Belt Benlacement	50
	5.6 Lacing Inspection	50
	5.7 Wheel Hub Installation	51
	5.7.1 Adjusting the Hub Tightness	
	5.7.2 Checking Endplay of an Installed Hub	
	5.8 Service Record	52
CHAPTER 6	Additional information	. 53
	6.1 General Torque Specifications	53
	6.1.1 Unified Inch Bolt and Screw Torque Values	
	6.1.2 Metric Bolt and Screw Torque Values	
	6.1.3 Suggested Torque for Hydraulic Fittings	
	6.1.5 Cable Clamps	
	6.2 SAE to Metric Conversion	
	6.3 Acronyms and Abbreviations	
CHAPTER 7	Troubleshooting	. 59
CHAPTER 8	Parts List	. 61
	8.1 Drawing List	61

CHAPTER 1 Introduction

This manual is for use with Brandt Industries Ltd. 15 Series LP Top Drive Field Belt Conveyors. Safe and efficient operation of your Conveyor requires that anyone who will inspect and work on this machine read and understand the information included in this manual. A person that is not trained and has not read this manual is not qualified to work on this machine. Read this manual before proceeding with any inspections or repairs on this machine.

Use the Table of Contents as a guide. Keep all manuals for future use. Contact Brandt Industries Ltd. if you need additional copies of this manual.

1.1 Operator Orientation

The directions left, right, front and rear, as mentioned throughout the manual, are as seen from the intake of the conveyor facing the conveyor outlet.

Front (Discharge End)

1.2 Safety Awareness Sign Off Form

Brandt Industries Ltd. follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the conveyor must read and clearly understand all safety, operating and maintenance information presented in this manual.

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

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

A sign off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understood the information in the operator's manual and have been instructed in the operation of the equipment.

Date	FULL NAME (PLEASE PRINT)	SIGNATURE	EMPLOYER NAME (PLEASE PRINT)	Signature	

TABLE 1-1. Sign off Form

1.3 General Specifications

	1535TD			1545TD					
Performance									
Capacity ¹ (bu/hr)	3200	4500	5000	6500 ²	3200	4500	5000 - 6500 ²		
Horsepower Requirement (Electric)	N/A	5hp	7.5hp	10hp	N/A	7.5hp	10hp		
Hydraulic Requirements	12GPM @ 1800psi	N/A	N/A	N/A	12GPM @ 1800psi	N/A	N/A		
Dimensions									
Belt Width	15"				15"				
Conveyor Length	37'				47'				
Raised Height	17' 5"				23'				
Raised Reach	13' 5"	13' 5" Elec/15' Hyd			16' 9" Elec / 18' 11" Hyd				
Lowered Reach	15' Elec / 17' 3" Hyd			20' 3" Elec / 23' 1" Hyd					
Transport Height (Hitch @ 12")	10' 7"			11' 8"					
Transport Length	40' 5"			48' 1"					
Intake Reach 11' 11" Elec / 9' 6			6" Hyd		12' Elec / 9' 1" Hyd				
Wheel Track Width 94"					94"				
Total Weight (lb)	1720			2030					
Hitch Weight (Ib)	80-100			80-100					
Tube Diameter	10"			10"					
Tire Size	ST205/75D15			ST205/75D15					
Features									
Lift Mechanism	Manual Winch			Manual Winch					
Windguards	Standard			Standard					
Belt Type	Rubber			Rubber					
Drive System	Top Roller			Top Roller					
Hopper									
Hopper Style	Low Profile Hopper			Low Profile Hopper					
Hopper Width and Length	36"x60"			36"x60"					
Collapsed Hopper Height	8"			8"					
Extended Hopper Height	ght 16"				16"				
¹ Measured in dry wheat at a 22.5-degree conveyor angle									

² Requires 560 ft/min belt speed available with fully configures unit

1.4 Description and Location of Major Components



CHAPTER 2 Important Safety Information

It is your responsibility as an owner, operator or supervisor, to know what specific requirements, precautions and work hazards exist. It is also your responsibility to make these known to all other personnel working with the equipment or in the area, so that they too may take any necessary safety precautions that may be required.

You are responsible for the safe operation and maintenance of this equipment. Make sure that all persons who operate, maintain or work near this equipment know the contents of this manual.

You are the key to safety. These safety precautions protect you and the people near you. Include these precautions in your safety program. Accidents can be prevented.

THINK SAFETY

WORK SAFELY

2.1 Safety Symbols / Signal Words

2.1.1 Recognizing Safety Information



This is the Safety Alert Symbol. It is used to alert you to injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

2.1.2 Understanding Signal Words

A signal word – DANGER, WARNING or CAUTION – is used with the Safety Alert Symbol.

A DANGER

DANGER! Is reserved for a hazard that, if not avoided, will result in death or serious injury.

A WARNING

WARNING! Indicates a hazard that, if not avoided, could result in death or serious injury.

A CAUTION

Caution. Shows a hazard that, if not avoided, could result in injury.



Notice. Indicates that your heightened awareness is required to avoid practices not related to personal injury.

These safety signs include a message that tells what the hazard is, and the steps to avoid the hazard.

2.1.3 Safety Messages / Decals

Different safety messages are displayed on this equipment. Locate, read, and understand the safety messages. The DANGER, WARNING, CAUTION or NOTICE symbol can be shown with a safety message.

These messages mean:



Note: Some of these messages will not be used on this product. They are shown for example only.



Notice. Replace safety signs when they become damaged. Make sure to include safety signs on replacement parts. New safety signs are available from Brandt Industries Ltd.

2.2 General Safety Precautions

- **THE MOST IMPORTANT SAFETY DEVICE ON THIS MACHINE IS A SAFE OPERATOR.** It is the operator's responsibility to read and understand all safety and operating instructions in the manual and to follow them.
- Conveyor owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter.
- A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes them self and bystanders to possible serious injury or death.
- Read and understand the Operator's manual and all safety signs before operating, maintaining, adjusting, unplugging or transporting the conveyor.
- Keep equipment, operator's stations, and the area around the equipment clean.
- Do not perform unauthorized modifications to this equipment.
- Make and follow an approved maintenance and inspection schedule.
- Do not remove, change, or disable machine guards.
- Keep railings, fences, and barriers in good condition and in place.
- Correct malfunctions and preform repairs immediately on discovery.
- Do not replace fasteners, or hardware, or mechanical connectors with a different or unknown grade or type. Torque fasteners and hardware to the correct value.
- Do not overload or exceed the machine capacity. Do not operate the machine at speeds or systems pressures that exceed the designed ratings.
- Use tools applicable to the work. Use power tools to loosen threaded fasteners only. Do not use SAE tools on SI (metric) fasteners.
- Use the correct lifting equipment for moving heavy parts. Follow recommended procedures for removal and installation of parts.
- Always have two people present when operating the machine.
- Keep the area clear of bystanders, especially children. Always ensure a clear path to the power source is available should the need arise to shut it down in case of an emergency.
- Have a first-aid kit available for use should the need arise and know how to use it.
- Provide a fire extinguisher for use in case of a fire. Store in a highly visible place.
- Do not allow riders on the machine.
- Place all controls in neutral, stop and lock out the power source and wait for all moving parts to stopbefore servicing, adjusting, repairing or unplugging the machine.
- Know where overhead electrical lines are located and stay away from them. Electrocution can occur without direct contact.
- Know the location and read all decals on the machine. They contain important alerts and precautions which are to be followed at all times.

2.2.1 Personal Protection Equipment

- Wear close-fitting clothing and personal protection equipment that is required for the work. Do not allow clothing to interfere with vision, hearing, or free use of hands and feet.
- Wear approved hearing protection as required. Continuous exposure to high noise levels can cause loss of hearing.
- Wear hand protection suitable for the work. The appropriate gloves will reduce exposure to surface temperatures, chemical absorption through the skin, cuts and skin injury.
- Wear eye and face protection required for the work.
- Hard hats should be worn while working on this machine.
- Wear approved steel-toe footwear.
- **DO NOT** wear neckties, jewelry or loose-fitting clothing when operating or working on this equipment.
- Safety requires your full attention to the work. DO NOT wear radio or music headphones.
- Dusts, moulds and other pollutants can cause health problems. Operators should wear the appropriate breathing apparatus when operating or working on this equipment.

2.2.2 Handling Chemicals Safely

- Direct exposure to hazardous chemicals can cause serious injury. Hazardous chemicals used in Brandt products can include lubricants, coolants, paints, fuels, adhesives and other products.
- A Material Safety Data Sheet (MSDS) provides specific details on these chemical products; physical and health effects; safety precautions; and emergency response procedures.
- Check the MSDS before you start any job that involves a potentially hazardous chemical. You will understand the risk and how to do the work safely. Follow procedures and use approved equipment.

2.3 **Operating Precautions**

WARNING

Follow these precautions to prevent death or serious injury.

- Read and understand the operator's manual prior to operating the conveyor.
- Read and understand the operator's manual for the brake winch prior to operating the conveyor.
- Complete an inspection of the machine before operating. Check condition of belts, gearboxes, drivelines, etc. and repair or replace if necessary.
- Watch for overhead electrical lines when moving the conveyor.
- Ensure all guards are in place and in good repair before operating.
- Keep hands, feet, hair and clothing away from all moving or rotating parts.
- Clear the area of all bystanders, especially children, before starting.
- Keep away from the intake of the conveyor while the machine is running. Keep others away.
- When cleaning out the corners of a truck box, do not lean over the conveyor intake.
- Do not use your hands or feet when cleaning out the intake hopper.
- Do not use the conveyor downspout as a support.
- Stay clear of the conveyor discharge end.
- Make sure the intake end of the conveyor is anchored or the discharge end is supported before moving any product.
- Do not stand on the edge of the truck box when loading a truck.
- Use extreme caution when maneuvering at or near maximum height. While the conveyor is in transport position, it should be backed until it is close to the bin then raised to the height needed, then carefully moved back to the bin. Under no circumstances should the conveyor be moved while it is at maximum height.
- Dusts, molds and other pollutants can cause health problems. Therefore, operators should wear the appropriate breathing apparatus.
- Wear hearing protection while operating.
- Do not run the conveyor at high speeds when it is empty.

2.4 Hydraulic System Safety Precautions



Follow these precautions to prevent death or serious injury.

- Lock-out/Tag-out the hydraulic system before performing maintenance or repairs to the machine.
- Ensure that the equipment being repaired is not connected to other systems (electrical, pneumatic) on the machine. Lock-out/Tag-out other systems to prevent unintended start-up or operation.
- Do not attempt temporary repairs to hydraulic components using tape, clamps, cement, etc. The hydraulic system operates using extremely high pressure. These repairs will fail suddenly and create a hazard and unsafe condition.
- Ensure replacement parts meet the capacity and pressure rating of the original part.
- When changing more than one part, completely install one part at a time to prevent incorrect connections. Protect openings from contamination.
- Wear appropriate personal protection equipment when searching for a hydraulic leak.
 Use a piece of wood or cardboard as a backstop instead of your hands to isolate and identify a leak. If you suspect you have been 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.

THERE MAY BE NO VISIBLE SYMPTOMS IMMEDIATELY AFTER EXPOSURE.

2.5 Transport Safety

- Make sure you are in compliance with all local regulations regarding transport of Agricultural equipment on public roads and highways.
- Make sure the hitch on the towing vehicle is rated for the gross weight of the towed machine.
- Always lower the conveyor to its lowest position before transporting. The conveyor lifting slide should be firmly against the transport stop. Keep light tension on the lifting cable.
- Make sure the Slow Moving Vehicle emblem and all the lights and reflectors that are required by the local highway and transporting authorities are in place, clean and can be seen clearly by all overtaking on oncoming traffic.
- Attach securely to tow vehicle or tractor using a ³/₄" dia. pin with a retainer and safety chain. Refer to Fig. 2.6 in Section 2.5.1 for safety chain attachment method.
- When transporting use a clevis-to-tongue connection. Never use a clevis-to-clevis or tongueto-tongue connection as this can lead to hitching failure. See Fig. •.



FIG. 2-1. Hitch Connection

- Do not exceed 80 km/h (50 mph) when towing a conveyor.
- The conveyor is not equipped with brakes. Make sure the tow vehicle has sufficient braking capacity to handle the extra load. The conveyor may not exceed 1.5 times the towing vehicle weight.
- Check the tires for cracks and make sure they are inflated to the recommended pressure as per sidewall marking.
- Never allow riders on the conveyor.
- Use hazard flashers on tow vehicle except where prohibited by law.
- Stay clear of all overhead electrical lines. Electrocution can occur without direct contact.
- Be careful not to turn too sharply when transporting the conveyor. Damage to the conveyor and/or towing vehicle can occur.
- Be aware of posts, trees, buildings and other obstacles when turning.

2.5.1 Safety Chain Installation

- Ensure that the chain has a load rating equal to or greater than the Gross Vehicle Weight.
- Attach the safety chain from the conveyor to the towing vehicle. The chain should be looped through the hole in the Hitch Tube Gusset on the intake of the conveyor (see Fig. 2.6). Route the chain through the intermediate support on the side of the conveyor hitch to the towing vehicle. Do not use the intermediate support as the primary method of attachment.
- Allow no more slack in the chain than necessary for articulation.
- Do not leave the safety chain attached to the conveyor while conveying product. When not in use, store the safety chain in a clean dry place.
- The safety chain should be replaced and not be used if one or more of the links or end fittings are broken, stretched or otherwise damaged or deformed. The replacement chain must be rated and stamped for the appropriate towing operation.



FIG. 2-1. Safety Chain Installation

2.6 Welding/Heating Safety Precautions



Follow these precautions to prevent death or serious injury.

- Do not weld or use a torch near pressurized fluid lines. Fluid lines can burst and create a flammable spray, resulting in severe burns to yourself and bystanders.
- Toxic fumes may be created when paint is heated by welding or using a torch. Remove paint a minimum of 4 inches (100mm) from the area affected by heating.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before heating. Remove the solvent or paint stripper and flammable material from the area. Ventilate the area for 15 minutes before welding or heating.
- Lock-out/Tag-out electrical power to the machine.
- Ground welding machine as near to the weld area as possible.
- Do not use chlorinated solvent in the area where welding will take place.
- Perform all work in a well-ventilated area. Use a welder's respirator.
- Dispose of paint and solvents properly.

2.7 Maintenance Safety

- Always disengage power, shut down the engine, remove the ignition key, be sure all moving parts have stopped before attempting to maintain or service the unit.
- Support the machine with blocks or stands when changing tires or working beneath.
- Follow good shop practices:
 - keep service areas clean and dry.
 - be sure electrical tools are properly grounded.
 - use adequate light for the job at hand.
 - use personal protective equipment. (ie. gloves, safety glasses, etc.)
- Use only tools, jacks and hoists of sufficient capacity for the job.
- Relieve pressure from the hydraulic system before servicing.
- Before applying pressure to a hydraulic system, be sure all connections and fittings are tight and in good condition. Never check for leaks with your hands. Always use a piece of wood.
- Replace all shields after maintenance. Never operate without shields, guards or access doors in place.

2.8 Grain Bin Safety

- Never enter a grain bin unless at least two people are present. Have one person outside the bin who can shut down the machine if an emergency arises.
- Always ensure an escape route exists before entering the bin.
- Do not walk on top of the grain in a bin unless another person is present and the person on the grain is equipped with a safety line.

2.9 Safety Decals

- Read and understand all decals before operating. Take care to follow all precautions and warnings displayed on the decals.
- Keep safety decals and signs clean and legible at all times.
- Replace safety decals and signs that are missing or have become illegible.
- Replaced parts that originally displayed a safety sign must also display the original sign.
- Safety decals or signs are available from your Dealer Parts Department or the factory.

2.10 Safety Decal Locations

The following illustrations show the position and content of the various safety decals on the Brandt Grainbelt Conveyor. If safety decals ever become damaged, removed or illegible, new decals must be applied.











2.11 Work Area Safety

The work areas shown below and on the next page should be marked off with barriers. It shall be the duty of the operator to see that children and/or other persons stay out of the work area! Trespassing into the work area by any one not directly involved in the actual operation, or trespassing into the hazard area by anyone, shall result in an immediate shut down by the operator. Prior to start up and during operation, it shall be the responsibility of the operator to see that the work area has secure footing, is clean and free of all debris and tools which may cause accidental tripping and/or falling.

Transport 2.11.1



2.11.2 Electric Motor Drive



Are there things to trip you?

End of Conveyor

2.11.3 Hydraulic Drive



Walking Surface. Is it Slippery? Are there things to trip you? Support Discharge End of Conveyor

CHAPTER 3 Assembly

Before beginning to assemble your new Brandt Conveyor, you are advised to read the following instructions carefully. Familiarize yourself with all the sub-assemblies and parts making up the conveyor. Check that all parts are on hand and arranged for easy access.

3.1 Preparing the Assembly Site

IMPORTANT: In order to setup the tube conveyor, at least two people are required and the assembly must be carried out in a large open area with a flat floor surface. Do not attempt to assemble the conveyor alone or without a front end loader or overhead crane.

Note: In order to ensure that the main tube is assembled together straight. The stands must be at least 24" high to allow easy access to the intake.

3.2 Assembly

- 1. Position the tubes on the stands as shown in Fig 3-1.
- 2. Remove the appropriate Wind Guards to gain access to the inside of the tube flanges.
- 3. Join the tubes using sixteen (16) 1/2" x 1 1/2" bolts, lock washers and nuts at the joint. The tube joint must be aligned and smooth as shown in Fig. 3-6.



FIG. 3-1. Stand Placement & Tube Joining



4. Place a bubble level onto a horizontal bracket on the tube. See Fig 3-3. Shim the tube until it is level.



FIG. 3-3. Bubble Level Placement

FIG. 3-2. Tube Joint Detail

5. Mount the Discharge Assembly and the Intake Assembly to the tube as shown in Fig 3-3 and Fig 3-4. The Discharge requires eight (8) 1/2" x 1 1/2" bolts, lock washers and nuts. The Intake requires ten (10) 1/2" x 1 1/2" bolts, lock washers and nuts. Do not fully tighten the nuts at this time.



FIG. 3-4. Mounting the Discharge Assembly



FIG. 3-5. Mounting the Intake Assembly



FIG. 3-6. Tube Joint Alignment

- 6. Use the bubble level to level both the Discharge and Intake assemblies. Make sure the tube joints are aligned and smooth, as shown in Fig 3-6. Tighten the joining bolts.
- Install the Hitch Receiver to the intake using four 1/2" x 1 1/2" carriage bolts and serrated flange nuts. Install the hitch retaining L-Pin as shown.

Note: If a Wrap Roller kit will be installed on the conveyor, refer to Fig 3-8 for installation.



FIG. 3-7. Intake Hitch Receiver Installation



FIG. 3-8. Wrap Roller Assembly

- 8. Loosen but do not remove all the bolts that hold the intake flashing in place as shown in Fig 3-9. This will ease installation of the belt.
- 9. Unroll the belt and trim the corners of the leading end as show in Fig 3-10. Make sure to trim only the end shown. Fig 3-10 shows the direction of travel of the belt.

Note how the edge of the chevron is pointing in the belt direction. **Make sure the leading end of the belt goes first.** Check that all the staples which hold the lacing to the belt are crimped properly.



FIG. 3-9. Intake Flashing Bolts



FIG. 3-10. Belt Direction

- 10. Fig 3-11 shows where to start feeding the belt into the conveyor. Make sure the leading end is inserted first, with the slider backing on top. The belt goes through the Belt Guide.
- 11. Pull the belt through the underside of the intake, around the roller, under both intake flashing strips and thread it around the two 'S' rollers. Take your time doing this as it can be difficult. Fig.3-12.
- 12. Insert a "fish tape" into the discharge end of the conveyor and push it down the tube to the intake.



FIG. 3-11. Inserting the Belt



FIG. 3-12. Routing the Belt around the Intake and S Rollers

13. Attach the "fish tape" to the belt by running a wire through the lacing.

CRITICAL Make sure that tube assembly is properly held in position so that it doesn't fall off the stands when pulling the belt through.

14. Pull the belt through the tube and continue except for approximately 1'.

Note: Make sure the tensioner roller on the Intake has been backed-off to it's loosest position.

- 15. Wrap the belt around the discharge roller and push it through the lower section of the discharge and down the underside of the tube. See Fig 3-13.
- 16. Bring the ends of the belt together and connect them using the lacing pin.
- 17. Squeeze the portion of the outside lacing clip as shown in Fig 3-14. Make sure the clip bites into the plastic of the lacing pin to hold it in place. Do this on one lacing clip only.



FIG. 3-13. Routing the Belt through the Discharge

- 18. Trim the excess pin with side cutters. Do not leave any pin extending past the edge of the belt.
- 19. Apply a layer of silicone over the lacing.
- 20. Turn the Tensioner Roller Adjusting Bolts (on the Intake) to tighten the conveyor belt. Refer to Section 5.4 for proper tensioning of the conveyor belt.

Make sure the belt is centered on the rollers.



FIG. 3-14. Squeezing the Lacing Clip



FIG. 3-15. Install the Discharge Flashing

- 21. Re-tighten all intake flashing bolts and install all guards and covers previously removed except for the Wind Guard Plate closest to the intake.
- 22. Attach the Discharge Flashing and the Backing Plate to the back side of the mounting plate using six 1/4"x 1" bolts, flat washers and lock nuts. See Fig. 3-15. Adjust the backing plate to support the edge of the flashing.
- 23. Attach the Discharge Hood to the Discharge Weldment using four 3/8"x 1" bolts and flat washers. Use the center hole in the upper locations at this time.



FIG. 3-16. Installing the Slide Assembly and Track Stops

- 24. Install the Transport Stop, where shown in Fig. 3-17, using two 1/2" x 1 1/4" bolts and lock nuts. See Fig. 3-16.
- 25. Position the Slide Assembly on the track as shown in Fig 3-16. Make sure the open end of the Slide Assembly faces the intake.
- 26. Install the Maximum Height Stop, where shown in Fig. 3-17, using two 1/2" x 1 1/4" bolts and lock nuts. See Fig. 3-16.



FIG. 3-17. Track Stop Positions

- 27. Attach the Cable Anchor to the lower end of the track using two 1/2" x 1 1/4" bolt and flange lock nuts. See Fig. 3.16.
- 28. Mount the looped end of the Lift Cable to the Cable Anchor using a 1/2" x 2" bolt and lock nut. Route the cable up to the Slide and around Slide Cable Sheave. The other end of the cable will be attached to the winch later. See Fig. 3-16.
- 29. Attach the Winch Plate to the bracket welded to the tube using three 3/8" x 1" bolts and serrated flange nuts. See Fig. 3-18.
- 30. Mount the Hand Winch to the Winch Plate using three 3/8" x 1 1/2" carriage bolts, lock washers and nuts.
- 31. Route the Winch Cable around the pulley in the Slide Assembly and down to the Winch. Direct the cable over the winch drum and attach it to the winch using the clamp supplied with the winch. See Fig. 3-19.
- 32. Slide a 3/8" flat washer, 1/2" OD x 1/2" lg. spacer and the Conveyor Angle Indicator onto a 3/8" x 1 1/2" bolt and thread it into the hole in the Conveyor Angle decal, as shown in Fig. 3-20. Make sure the Indicator can move freely.



FIG. 3-18. Mounting the Hand Winch



FIG. 3-19. Installing the Winch Cable



FIG. 3-20. Installing the Tube Angle Gauge



FIG. 3-21. Tube Decal Placement

- 33. Install the decals on the tube where shown in Fig, 3-21. Make sure to clean the areas thoroughly before installing.
- 34. Install the Drive Kit on the conveyor tube. Refer to Section 3.3 or Section 3.4 for assembly instructions.

All Conveyors with Hydraulic Drive

- 35. Sandwich the Handle Spacer between the two Hopper Handle Mounts and attach them to the tube using two 3/8" x 1 1/2" bolts where shown in Fig 3-22.
- 36. .Insert the end of the Hopper Handle between the Hopper Handle Mounts and fasten in place using a 3/8" x 1 1/2" bolt, two flat washers and a lock nut. Do not fully tighten the nut, the handle must be able to rotate.
- 37. Insert the 3/8" x 2" bolt through the other hole in the Handle.Slide the 5/8" OD x 1" lg. spacer, the 3/16" cable thimble and the 3/8"



FIG. 3-22. Hopper Handle Installation

flat washer onto a 3/8" x 2" bolt. Secure in place using a 3/8" stover lock nut.

- 38. With the Hopper Handle positioned as shown, wrap the 3/16" intake cable around the thimble and secure with two 3/16" cable clamps. Rotate the Hopper Handle and the Collapsible Intake Hopper should pull down. Adjust the cable if necessary.
- 39. Move ahead to Step 42.
All Conveyors with Electric Drive

- 40. Insert the end of the Hopper Handle between the lugs on the Winch Mount and fasten in place using a 3/8" x 1 1/2" bolt, two flat washers and a lock nut. Do not fully tighten the nut, the handle must be able to rotate. See Fig. 3-23.
- 41. Insert the 3/8" x 2" bolt through the other hole in the Handle.Slide the 5/8" OD x 1" lg. spacer, the 3/16" cable thimble and the 3/8" flat washer onto a 3/8" x 2" bolt. Secure in place using a 3/8" stover lock nut.
- 42. With the Hopper Handle positioned as shown, wrap the 3/16" intake cable around the thimble and secure with two 3/16" cable clamps. Rotate the Hopper Handle and the Collapsible Intake Hopper should pull down. Adjust the cable if necessary.



FIG. 3-23. Hopper Handle Installation

All Conveyors

- 43. Attach the Axle Arms to the Axle using 3/8" x 4" U-Bolts and lock nuts. Make sure the Axle is oriented as shown. Centre the Axle Arms on the A-Frame mounting lugs. See Fig. 3-24.
- 44. Position the Axle Frame assembly under the conveyor tube. Fasten the Tire assemblies to the hubs using the Wheel Nuts. Torque to 90 ft. lbs. See Fig. 3-24.



FIG. 3-24. Assembling the Axle Frame

15 Series LPTD Field Belt Conveyors

- 45. Fasten the upper end of the A-Frame Arms to the Track Slide using two 3/4" x 8" bolts and lock nuts. Do not fully tighten the nuts. This connection needs to move freely. See Fig. 3-25.
- 46. Connect the lower end of the A-Frame Arms to the lugs on the Axle using a 3/4"x 3" bolt, a flat washer and lock nut for each arm. Do not fully tighten the nuts. The Arms must be able to move freely. See Fig 3-26.
- 47. Mount the A-Frame Cross Brace to the A-Frame Arms as shown in Fig 3-27 using two 5/16" x 2 1/2" U-bolts and 5/16" serrated flange nuts. To ensure that the cross brace is square, measure from the top of each A-Frame Arm as well as the diagonal distance.
- 48. Raise the intake end of the conveyor slightly and remove the stand. Rest the intake on the ground.
- 49. Carefully wrap a sling around the Discharge Assembly and raise the discharge end to approximately 12' using a front end loader or crane.



DANGER! WATCH OUT FOR OVERHEAD POWER LINES.



FIG. 3-25. Mounting A-Frame Arms to Slide







FIG. 3-27. Installing the A-Frame Cross Brace

50. Raise the Axle Frame Arms and attach them to the tube using a special Retaining Pin, a 1" flat washer, a Pin Collar, a 3/8" x 2 1/2" bolt and lock nut, as shown in Fig. 3-28.

Note: There are several Axle Frame mounting holes on the tube. Use the hole shown in Fig. 3-28 or 3-29.

NOTICE

Notice. Do not lower the conveyor tube until the Axle Frame Cross Brace has been installed.

51. Install 1 1/4" Plastic Plugs in the unused mounting holes.



FIG. 3-28. Axle Frame to Tube Connection



FIG. 3-29. Axle Frame Mounting - 1535



FIG. 3-30. Axle Frame Mounting - 1545

15 Series LPTD Field Belt Conveyors

- 52. Install the Axle Frame Cross Brace as shown in Fig. 3-31. Make sure it is parallel to the Axle.
- 53. Mount the Hitch Storage Bracket to the right side of the Axle Frame as shown.
- 54. Check all the Undercarriage assembly bolts for tightness. All bolts should now be tight except for the pivoting bolts which need to rotate.
- 55. Carefully lower the conveyor tube until the Slide rests against the Transport Stop.
- 56. Install the Manual Holder on the left A-Frame Arm using the components shown in Fig 3-32.
- 57. Mount the Transport Hitch to the intake using the 3/4" x 4" L Pin and a 3/16" x 3 3/4" Hair Pin Clip. See Fig 3-33.



FIG. 3-31. Installing the Axle Frame Cross Brace



FIG. 3-32. Mounting the Manual Holder



FIG. 3-33. Installing the Transport HItch

3.3 Electric Drive Option

IMPORTANT: The Top Drive Conveyor has been designed to support an electric motor weighing a <u>maximum</u> of 225 lbs. <u>Motors weighing more than 225 lbs. should not be used.</u>



FIG. 3-34. Electric Drive Kit Installation

- 1. Remove the Upper Discharge Cover. Mount the Motor Base to the Cover using four 3/8"x 3/4" serrated flange bolts and serrated flange nuts. Replace the Cover. See Fig. 3-34.
- 2. Attach the Motor Mount to the Motor Base using two 1/2" x 1 1/4" serrated flange bolts, flat washers between the mount and the base and locking flange nuts. Do not fully tighten the nuts, the Motor Mount must be able to pivot.
- 3. Loosely mount the Motor Mount Brackets to the Motor Mount using four 3/8"x 1" carriage bolts and serrated flange nuts.
- 4. Thread a 1/2" hex nut onto the 1/2" x 3" full thread bolts. Insert the end of the bolts through the holes in the Motor Mount and thread on another nut. These bolts are used to tension the belts.
- 5. Attach the Guard Back Plate to the Discharge using two 3/8" x 1" carriage bolts and lock nuts and an existing 3/8" x 3/4" bolt and flat washer.

15 Series LPTD Field Belt Conveyors

- 6. Attach the Latch Plate over the Discharge Spout using the bolt holding the Discharge Spout. Install the Rubber Latch in the plate.
- 7. Install the large pulley onto the discharge roller stub shaft. The edge of the pulley hub should be flush with the end of the shaft. Make sure the 1/4" key is used.
- Mount the Electric Motor to the Motor Mount using four 3/8"x 1 1/2" carriage bolts, flat washers, lock washers and nuts. Do not tighten at this time. See Fig. 3-35.
- 9. Install the small pulley onto the motor output shaft. Refer to Fig. 3-35 for correct motor pulley. Make sure the key is used.
- 10. Using a straight edge, align the pulleys.
- 11. Tighten all motor mounting fasteners.
- 12. Install the belts onto the pulleys.



FIG. 3-35. Electric Motor Installation

- 13. Adjust the $1/2'' \ge 3''$ bolts in the Motor Mount to set the drive belt tension. The belts should deflect 1/4'' with 5 lbs. force at the center of the span.
- 14. Install the plastic belt guard between the lugs on the Guard Back using two 1/4"x 1" bolts, flat washers and lock nuts. The flat washers should be between the lugs and the bracket mounted to the guard. Do not fully tighten the hinge mounting bolts, the guard must be able to rotate. See Fig. 3-34.
- 15. Close the Belt Guard and secure it in place with the Rubber Latch.
- 16. Route the electrical cable and Starter Box along the left side of the conveyor tube.
- 17. Loosely attach the Upper and Lower Box Mount to the Winch Saddle using four 3/8" x 1" bolts and serrated flange nuts. Do not tighten at this time. See Fig. 3-36.
- Mount the Starter Box to the mounts using four 3/8" x 1" bolts and serrated flange nuts. Tighten the fasteners holding the Mounts to the Saddle.



FIG. 3-36. Starter Box Mounting

19. Secure the cable to the Wind Guard plates using Double Tubing Clamps and existing fasteners. See Fig. 3-37.



FIG. 3-37. Electrical Cable Installation



Notice. Always have the electric motor wired by a qualified electrician.

20. Return to Step 34 to complete the assembly of the conveyor.

3.4 Hydraulic Drive Option



FIG. 3-38. Hydraulic Motor Assembly

- 1. Install the 50-17 Sprocket 1" Bore onto the hydraulic motor. Make sure the 1/4" key is on the shaft. Make the edge of the sprocket flush with the end of the motor shaft. Install and tighten the sets screws in the sprocket. Use medium strength thread locker on the set screws.
- 2. Open the Coupler Chain and wrap it around both sprockets.
- 3. Install the motor and coupler assembly into the Motor Mount using four 3/8" x 3/4" bolts. Make sure the ports are oriented as shown in Fig. 3-38.
- 4. Remove the nuts holding the Roller Bearing to the Discharge body.
- 5. Line up the coupler sprocket with the drive roller shaft and the Motor Mount with the bearing mounting bolts. Make sure the 1/4" Key is on the roller shaft. Attach the motor mount on the bearing using the two flange nuts removed earlier. See Fig. 3-38.
- 6. Install and tighten the set screws holding the coupling sprocket to the drive roller. Use medium strength thread locker on the set screws.
- 7. Remove the plugs from the hydraulic motor and install the hydraulic fittings as shown in Fig. 3-38.
- 8. Connect the Tees with the 3/8" Hydra. Hose x 20".
- 9. Install the long hoses on the Tees.
- 10. Install the Pioneer Male Tips on the end of the long hoses.
- Run the hoses down the tube and secure with Double Tube Clamps where required. See Fig. 3-39.



FIG. 3-39. Hose Clamp Installation

CHAPTER 4 **Operation**

4.1 **Principles of Operation**

The Brandt Belt Conveyors are used for moving products to or from a storage site. The conveyor is powered by either an electric motor or hydraulic motor. The motor is mounted above the discharge (B). The power is transfered to the conveyor belt through the Discharge Roller.

Options include an electric or hydraulic drive, an extra roller in the discharge to increase the amount of belt wrap around the drive roller, a cover for the intake (C) and a plastic downspout for the discharge.



4.2 Setup for Operation of a New Machine

4.2.1 Before running the new Conveyor

- Read operator's manual, especially Sections 2,4 and 5.
- 2. Tighten wheel bolts to specified torque.
- 3. Check all fasteners and ensure they are tightened to specified torque levels.
- 4. Check that all guards are in place, secure and functional.
- 5. Check the winch and cable for security and operation. There should be at least three complete wraps of cable around the winch drum in the full down position. The cable anchor on the winch drum must be tight.

The Brandt 15 Series Top Drive Field Belt Conveyors have been designed to the specifications on the following table.

Top Drive Configurations						
	Drive					
Configuration	Motor	Belt Speed (fpm)				
1535	10 hp Electric Fully Configured	560				
	7.5 hp Electric	450				
	5 hp Electric	400				
	Hydraulic	600				
	10 hp Electric Fully Configured	560				
1545	10 hp Electric	450				
	7.5 hp Electric	400				
	Hydraulic	600				

A slower belt speed is more gentle on the product where as a higher belt speed increases capacity but may increase product damage. To determine belt speed of the conveyor, use a stop watch to find the time the belt takes to make one revolution.

Time (sec) **Belt Speed (fpm)** 1535 1545 300 15 19 400 11 14 500 9 11 600 7.5 9.5

4.2.2 Initial Break-in

While the conveyor is running, be aware of any unusual noises or vibrations.

NOTICE

Notice. A new belt will tend to wear slightly at the edges and throw out small pieces of belting for approximately the first 5 minutes of use. <u>This is normal.</u> Check the belt tension and alignment closely during this period.

- 1. Re-torque all fasteners and hardware.
- 2. Check the conveyor belt for tension and alignment.
- 3. Check the conveyor drive belts for tension and alignment.

4.3 Pre-Operation Checklist

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

- 1. Ensure the conveyor belt slides freely inside the tube.
- 2. Service the machine as per the schedule in the maintenance section of this manual.
- 3. Make sure all guards and shields are in place and in good repair.
- 4. Check the tires for proper inflation and be sure they are in safe road condition.
- 5. Check the conveyor belt for tension, alignment and condition.
- 6. Check the condition of the belt lacing and the lacing pin.
- 7. Check the motor drive belts for tension, alignment and condition.
- 8. Check and clear the conveyor of any obstructions.
- 9. Check the winch cable for fraying. If the cable is frayed at all, replace immediately.
- 10. Check the winch brake. Repair if necessary.
- 11. After the conveyor has been positioned, anchor the intake end or support the discharge end to prevent tipping.

4.4 Work Area Placement

Moving the Conveyor with a Towing Vehicle into or out of the Working Area.

- 1. Clear the entire area of all debris.
- 2. When moving the conveyor, always use a vehicle. When raising from or attaching to a vehicle, test the intake end for downward weight. Lift it slowly and keep the intake end no higher than the tow vehicle's hitch. Be sure all product is emptied from the conveyor before lifting.

A WARNING

WARNING! Never move the conveyor manually. Do not push on the conveyor undercarriage.

- 3. The conveyor must be on a level surface attached to a vehicle and the wheels must be free to move when raising or lowering.
- 4. If the conveyor must be raised before placement, make sure the entire area above the conveyor and in the line of travel is clear of obstructions and electrical wires.

A DANGER

DANGER! Keep clear of all power lines. Electrocution can occur without direct contact with power lines.

- 5. The conveyor has the ability to lift to a 32 degree angle, but will only move product up to 30 degrees. It has been designed this way to allow easy placement in the storage facility.
- 6. Use extreme caution when moving the conveyor into working position. Make sure everyone is clear of the work area, especially children.

DANGER! Once in place, anchor the intake end or support the discharge end before using. Failure to do so, can result in damage to the conveyor and/ or serious injury or death as it may tip over during use.

7. The wheels should be chocked on **BOTH** sides of the conveyor and power source.

A DANGER

DANGER! <u>DO NOT</u> attempt to increase the conveyor height by positioning the wheels on lumber, blocks or by any other means.

4.5 Discharge Hood Adjustment

The angle of the Discharge Hood is adjustable. Depending on the height the conveyor will most frequently be used at, you can change the angle by removing the upper mounting bolt and tilting the hood to the best angle. The figure shows which hole to use depending on the angle of the conveyor.



4.6 Conveyor Drives and Lock Out

It is essential to inspect your conveyor drive before adding power and know how to shut it down in case of an emergency.

Whenever you must service or adjust the conveyor, make sure to stop the engine/motor and lock out the power source!

4.6.1 Electric Motor

- Electric motors and controls must be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and provincial/ state codes.
- 2. A magnetic starter should be used to protect the motor.
- 3. There must be a manual reset button.

- 4. You must disconnect the power **BEFORE** resetting the motor.
- 5. The reset and the motor starting controls must be located so that the operator has full view of the entire operation.
- 6. Keep all guards and shields in place.

LOCK OUT

A main power disconnect switch capable of being locked only in the OFF position shall be provided. This shall be locked whenever work is being done to the conveyor.

4.6.2 Hydraulic Power

- 1. Never attempt to adjust or service a motor while it is in operation.
- 2. Do not disconnect the hydraulic lines while the system is under pressure. Consult your hydraulic systems operators manual for proper procedures.
- 3. Keep all hydraulic lines and hoses away from moving parts.

LOCK OUT

Refer to the above rules and regulations applicable to the lock out of the power source operating your system.



WARNING! Hydraulic oil escaping under pressure can penetrate the skin, causing serious injury. Before disconnecting the pressure lines, make sure oil pressure is relieved.

4.7 Full Load Operating

During the regular operation of your conveyor, one person must be in position to monitor the operation.

It is also good practice to visually inspect the conveyor periodically during the actual operation. You should be alert for unusual vibrations, noises and loosening of fasteners.

WARNING

WARNING! Clear the area of all bystanders especially children.

- 1. Keep all safety shields and devices in place.
- 2. Make certain everyone is clear before operating or moving the machine, especially children.
- 3. Keep hands, feet and clothing away from moving parts.
- 4. Regulate the amount of grain entering the conveyor to keep it from overloading.
- 5. Shut off the power and lock out the power source before adjusting, servicing or cleaning the conveyor.
- 6. Check the conveyor belt tracking under load.

In certain situations when conveying small grained product, leakage may be observed at the discharge end of the conveyor. This may be caused be product getting behind the belt at the intake end. If this is observed, try slowing the belt speed and decreasing the amount of product being conveyed. Keep in mind that different temperatures, different moisture contents and different products can all effect the capacity of the conveyor.

4.8 Cold Weather Operation

Before any cold weather operation, make sure to remove all snow and ice from the conveyor intake.

- 1. Clear as much snow and ice away as possible from where the intake end of the conveyor will be positioned before starting.
- 2. Run the conveyor empty at a slow speed for approximately 2 minutes before putting any product through the machine to allow the belt to warm up.
- 3. After all the product has been conveyed, run the conveyor empty at a slow speed for approximately 2 minutes to remove any moisture that has built up on and under the belt.

4.9 Oilseed & Fertilizer Operation

The conveying of different products will cause the belt to either shrink or stretch. The oil from crushed Oilseed or the dust from fertilizer can penetrate the fabric side of the belt (the under side of the belt) and cause the belt to shrink during use. The top side of the belt is fully protected by the rubber or PVC cover. Heavy grains such as corn and wheat can cause the belt to stretch during use.

When conveying oilseeds and fertilizer, it is recommended that two things be done during operation to reduce the shrinkage on the belt:

- 1. Make every effort to keep the product in the hopper below the edges of the belt i.e. less than full capacity. This will make it difficult for the product to get to the backside of the belt and therefore reduce the shrinkage that **will** occur.
- 2. The lacing is another area on the conveyor where product can get to the backside of the belt. Fine seeded crops such as canola and flax can fall through the openings of the lacing. To minimize this, coat the lace with a layer of silicone to fill the gaps.

The spring tension gauge located on the intake of the conveyor intake allows the operator to react to the shrinkage or expansion of the belt.

During use in all products but especially in oilseeds and fertilizers, be sure that the tension gauge is in the green zone when the conveyor belt is stopped. <u>Adjust as necessary</u> to maintain consistent belt tension and reduce the potential for lacing, belt, and bearing failures. See <u>Section 5.4</u>

4.10 Conveyor Shutdown

4.10.1 Normal Shutdown

1. Reduce the flow of grain into the conveyor slowly.

A DANGER

DANGER! If the flow of grain into the conveyor is shut off too quickly, tipping of the conveyor from uneven weight distribution may occur. Make sure the intake end has been anchored, the discharge end has been supported.

- 2. Make sure the hopper and tube are empty before stopping the unit.
- 3. Before the operator leaves the work area, the power source must be locked out.

4.10.2 Emergency Shutdown

- 1. Immediately, shut down the engine or electric motor.
- 2. Should it be necessary to shutdown the conveyor under load, disconnect and lock out the power source. Clear as much product from the hopper and tube as possible. Never attempt to start the conveyor when full.
- 3. Starting the unit under load may result in damage to the conveyor. Such damage is considered abuse of the equipment and is not covered under warranty.

4.11 Clean Up and Storage

When the operation has been completed, it is recommended that you move the conveyor to the new work area or storage area.

- 1. Clean the entire area.
- 2. Remove all anchors, supports and wheel chocks.
- 3. Move the conveyor slowly out of working position with a towing vehicle **NOT BY HAND**.
- 4. If not already in transport position, lower the conveyor to the full down position immediately upon clearance of any obstruction.
- 5. Transport the conveyor to the new work area or storage area. It is recommended that the conveyor be stored in the fully down position with the intake end anchored to the ground.
- 6. Never leave the conveyor resting against a bin or storage building.
- 7. The Transport Hitch should be stored in the position shown when not required.



4.12 Transport

Moving the Conveyor with a Towing Vehicle to or from the Work Area.

- 1. Clear the area of bystanders, especially children.
- 2. Always transport the conveyor in the fully down position. The track slide should be seated against the transport stop with **slight tension on the winch cable** and at least **three complete wraps** of cable around the winch drum.
- 3. Make certain the hitch pin or bolt is securely attached and an additional safety chain is secure to the conveyor and tow vehicle. See Section 2.5.1 for proper safety chain routing.
- 4. **DO NOT** transport the conveyor at speeds in excess of 50 MPH. Be sure to comply with all local regulations governing marking, towing and maximum width.
- 5. Be aware of overhead obstructions and electrical wires. Electrocution can occur without direct contact with power lines.
- 6. Never allow persons to stand underneath or ride on the conveyor when it is being transported.
- 7. Always transport the conveyor with the collapsible hopper held in the collapsed position to avoid damage from rocks.

15 Series LPTD Field Belt Conveyors

CHAPTER 5 Maintenance

5.1 Fluids and Lubricants

- Grease Use an SAE multipurpose high temperature grease with extreme-pressure (EP) rating. Also acceptable is an SAE multipurpose lithium based grease.
- 2. 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.

5.2 Lubrication

- 1. Use the provided Maintenance Checklist to keep a record of all scheduled maintenance.
- 2. Use a hand held grease gun for all greasing.
- 3. Wipe fittings clean before greasing to avoid injecting dirt and grit.
- 4. Use a single shot of grease unless otherwise noted.
- 5. Repair and replace broken or missing fittings immediately.
- 6. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

Note: DO NOT OVER GREASE AS THIS MAY DAMAGE THE BEARING.

5.3 Service Intervals

These service intervals are listed in addition to the new machine break in items as described in the first Operation Section on Section 4.1.

5.3.1 10 Hours or Daily

- 1. Lubricate all roller bearings.
- 2. Check the motor drive belt tension. The belts should deflect 3/4" with 9 lbs. force at the center of the span.
- 3. Check the conveyor belt tension and alignment. See Section 5.4.

Note: Due to shrinkage or stretching, the belt tension will be effected. Adjust the belt as required to maintain proper belt tension.

- 4. Check the conveying belt lacing.
- 5. For the first 50 hours of Operation, check drive belt tension every 10 hours or daily. After check every 50 hours or weekly.





5.3.2 Annually

1. Check the wheel bearing tightness, repack if necessary.

5.4 Conveying Belt Tension and Alignment

Proper belt tension depends on several factors but is primarily due to the commodity being conveyed and the capacity at which the conveyor is running. The more capacity the tighter the belt will need to be to prevent slippage. The heavier the product being conveyed the tighter the belt will need to be.

The tension and alignment of the belt should be checked daily, or more often if required, to be sure it does not slip or run to one side. Particular care should be taken with a new conveyor belt.

A new belt will require much closer observation than a belt that has been used for a period of time. The new belt needs to "break in". This means that stretching or contracting (stretching due to loading the product on the belt and contracting due to oil and dust penetrating the back side of the belt) takes place during the first 10 hours of operation. Once broke in the belt tension will require much less observation.

A properly tensioned belt will not slip when it is operating. It is the operators responsibility to ensure that the conveyor belt is not slipping during operation.

IMPORTANT: Belt tension is affected by belt shrinkage and stretching. If your belt is too tight, bearing failure and/or belt failure will result. If your belt is too loose, damage to the drive roller and or conveyor belt will result. Adjust the belt as required, to maintain proper belt tension.

5.4.1 Adjusting the Belt Tension

Follow this belt tension procedure to adjust the conveyor belt tension. **Please note that this is a starting point only.** The belt tension must be carefully monitored during the first 10 hours of operation and daily there after.

- 1. Disable the power source before adjusting the belt tension.
- 2. Adjust the compression spring until the dashed line in the green section of the decal on the left Spring Tension Gauge is in-line with the edge of the plate where the Tension Gauge goes through the slot in the Tensioner Mount. Make sure to adjust both bolts the same amount or tracking problems will occur.
- 3. Run the conveyor for 1 minute then stop it and lock out the power source. Examine the Spring Tension Gauge and readjust if necessary.

Note: While the machine is running, the dashed line on the gauge **WILL NOT** be inline with the plate. The dashed line should only be in-line with the plate when the machine has stopped.



IMPORTANT: Do not adjust the belt tension with the conveyor is running. This will the cause the belt to be over-tensioned and will cause damage to the belt, bearings and/or rollers. The belt tension should only be examined and tensioned when the machine is stopped.

- 4. Repeat steps 2 and 3 until the edge of the plate remains in the center of the green section when the machine is stopped.
- 5. If you notice the belt slipping at any time during operation, shut the conveyor down immediately and examine the Tension Gauge. You can determine if the belt is slipping by listening to the belt go through the tube or by watching the intake roller. If the belt is slipping, the intake roller will be changing speeds throughout the belt revolution.
- 6. Run a load through the conveyor and monitor belt slippage.

5.4.2 Belt Alignment

The belt is properly aligned when it runs in the center of the end rollers.

5.4.2.1 Checking the Alignment

Use the end roller on the intake end and the roller on the discharge end to set the belt tracking. The belt should be centered on these rollers.

Note: The plastic discharge hood must be removed in order to check discharge roller alignment.

When the belt is new, turn the belt 1/2 revolution and check the rollers. A misaligned belt will always track toward the <u>loose</u> side.

5.4.2.2 Adjusting the Tracking

If out of alignment, loosen the roller bearing mounting bolts and use the bearing position bolts to adjust the bearing position.

Tighten the mounting bolts. Run the belt a couple revolutions and check the belt position on the rollers. Readjust if necessary. Check frequently during the first few minutes of operation and several times during the first 10 hours of operation. The belt normally seats itself after the first 10 hours of operation and can be checked daily after that.

Note: It is normal for the belt to wander from side to side on the rollers. It should not, however, push hard to one side and stay there.



5.5 Belt Replacement

- 1. Remove the first wind guard cover above the intake from the conveyor.
- 2. Rotate the belt until the belt lacing is in this portion of the conveyor.
- 3. Move the tensioning roller to its loosest position and pull the slack to the seam area.
- 4. Remove the wire connector and open the belt.

Note: Check the lacing staples on the new belt for proper crimping.

- 5. Attach one end of the new belt to the belt being removed.
- 6. Pull the old belt out and the new belt will be threaded into place.
- 7. Disconnect the old belt and connect the ends of the new belt and secure with the new pin. See Fig. 3-14 and follow steps 16 to 18 of the Assembly Section.
- 8. Set the belting tension.
- 9. Check and set the belting alignment.
- 10. Remount the Wind Guard Covers.

5.6 Lacing Inspection

Particular attention should be paid to the belt lacing. Because of the flexing motion of the belt, the lacing is always in motion.

Things to look for are:

- 1. Wear in the joining pin.
- 2. The lacing can pull out of the belt.
- The staples which hold the lacing on the belt can become loose or bent. To check this, you must look on the back side of the belt. Any staples that are broken, must be replaced. Any that are bent, can be straightened and re-crimped. When installing a new belt, check that all the staples are crimped properly before installing in the tube.

5.7 Wheel Hub Installation

5.7.1 Adjusting the Hub Tightness

To adjust the 5 bolt wheel hub tightness, use the following instructions.

- 1. Remove the dust cap from the hub. Remove the cotter pin holding the castle nut in place.
- 2. Torque the castle nut to 50 ft-lbs. Turn the hub one full rotation to seat the cups and cones. Repeat this process of tightening and rotating four times. This will ensure the cones are properly seated in the cups.
- 3. Loosen the castle nut one full turn or until the nut can be turned by hand.
- 4. Torque the castle nut to 20 ft-lbs. Turn the hub one full rotation to seat the cones in the cups.
- 5. Loosen the castle nut until the first castellation lines up with the cotter pin hole. This should be no more than 1/6 of a turn.
- 6. Install the cotter pin but do not bend the ends yet.
- Turn the hub and make sure it rotates freely.
 If the hub is the proper tightness, bend the ends of the cotter pin, pack the dust cap with grease and install.

If the hub seems too loose in the axial direction, check the endplay to verify it is within 0.001" to 0.005", as shown in Section 5.7.2.

5.7.2 Checking Endplay of an Installed Hub

Note: Endplay must be checked with a Dial Indicator.

- 1. Ensure the hub has been installed using the previous installation instructions.
- 2. Attach the base of the Dial Indicator to the mounting face of the hub.



- 3. Adjust the Dial Indicator plunger or pointer so it is parallel with the spindle axis.
- 4. Grasp the hub assembly at the 3 o'clock and 9 o'clock positions. Push and pull on the hub and read the bearing end play as the total indicator movement.
- 5. End play must be within the range of 0.001" to 0.005". If it is, proceed to step 8.
- 6. If the endplay measurement exceeds 0.005", repeat the procedure in Section 5.7.1 and recheck the endplay.
- 7. If the endplay still exceeds 0.005" after repeating the instructions in Section 5.7.1, tighten the castle nut to the next castellation. This should not exceed 1/6 of a turn.
- 8. Install the cotter pin and check to ensure the hub rotates freely.
- 9. Pack the dust cap with grease and install.

5.8 Service Record

Use this table to record the service work done to the machine. See Lubrication Section 5.2 for details of service.

Table Codes C - Check L - Lubricate

Hours				
Serviced By, Initial				
Service Schedule				
10 hours or Daily				
L - All Roller Bearings				
C - Drive Belt Tension				
C - Conveyor Belt Tension				
C - Conveyor Belt Lacing				
Weekly				
Lubricate Drive Chain				
Check Drive Belt Tension				
Annually				
C - Wheel Bearings, Repack if necessary				

CHAPTER 6 Additional Information

6.1 General Torque Specifications

Use the following guidelines when tightening bolts.

- Tighten all bolts to the torques specified in charts unless otherwise noted throughout this manual.
- Check the tightness of the bolts periodically, using the bolt-torque chart as a guide.
- Replace hardware with the same strength bolt.
- Torque figures are valid for non-greased or non-oiled threads and heads unless otherwise specified. Do not grease or oil bolts or cap screws unless specified in this manual. When using lock nuts, increase the torque values by 5%.

6.1.1 Unified Inch Bolt and Screw Torque Values

TS1671 -UN-01MAY03



TABLE 6-1. Unified Inch Bolt and Screw Torque Values

Daltar	SAE Grade 1			SAE Grade 2 ^a			SAE Grade 5, 5.1 or 5.2			SAE Grade 8 or 8.2						
Screw	Lubric	ated ^b	Dr	y ^c	Lubric	ated ^b	Dr	y ^c	Lubric	ated ^b	Dr	y ^c	Lubric	ated ^b	Dr	y ^c
SILC	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N.m	lb-ft	N.m	lb-ft
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N.m	lb-ft	N.m	lb-ft				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N.m	lb-ft	N.m	lb-ft	N.m	lb-ft								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N.m	lb-ft														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

^a Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152mm) long. Grade 1 applies for hex cap screws over 6 in. (152mm) long and for all other types of bolts and screws of any length.

^b Lubricated means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C zinc flake coating.

^c Dry means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.

6.1.2 Metric Bolt and Screw Torque Values



TABLE 6-2. Metric Bolt and Screw Torque Values

Class 4.8				Class 8.8 or 9.8			Class 10.9			Class 12.9						
Bolt or Screw	Lubricated ^b Dry ^c		Lubric	Lubricated ^b Dry ^c		y ^c	Lubricated ^b Dry ^c		y ^c	Lubricated ^b		Dry ^c				
Size	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in	N.m	lb-in
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N.m	lb-ft	N.m	lb-ft	N.m	lb-ft	N.m	lb-ft
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N.m	lb-ft	N.m	lb-ft	N.m	lb-ft								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N.m	lb-ft														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown int he chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

^b Lubricated means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.

^c Dry means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.

6.1.3 Suggested Torque for Hydraulic Fittings

Fitting Size	Dash Size	37°	, NC	Ο	RB	ORF		
		ft-lb	N-m	ft-lb	N-m	ft-lb	N-m	
1/4	04	12	15	14	20	12	15	
3/8	06	20	25	23	30	25	35	
1/2	08	40	55	40	55	55	75	
5/8	10	60	80	45	60	75	100	
3/4	12	80	110	75	100	130	175	
7/8	14	-	-	85	115	170	230	
1	16	110	150	120	165	210	285	
1-1/4	20	130	175	155	210	250	340	
1-1/2	24	165	225	170	230	320	435	

TABLE 6-3. Suggested Torque for Hydraulic Fittings

6.1.4 Suggested Torque for Tapered Pipe Thread Hydraulic Fittings

Suggested Wrenching Torque for Tapered Pipe Thread Fittings							
Tapered Pipe Thre	ead with S	ealant*	Tapered Pipe Thread without Sealant				
Thread Size	N-m	lb-ft		Thread Size	N-m	lb-ft	
1/16-27 UNF	15	10		1/16-27 UNF	20	15	
1/8-27 UNF	20	15		1/8-27 UNF	25	20	
1/4-18 UNF	25	20		1/4-18 UNF	35	25	
3/8-18 UNF	35	25		3/8-18 UNF	45	35	
1/2-14 UNF	45	35		12-14 UNF	60	45	
3/4-14 UNF	60	45		3/4-14 UNF	75	55	
1-11 1/2 UN	75	55		1-11 1/2 UN	90	65	
1-1/4-11 1/2 UN	95	70		1-1/4-11 1/2 UN	110	80	
1-1/2-11 1/2 UN	110	80		1-1/2-11 1/2 UN	130	95	
2- 11 1/2 UN	130	95		2- 11 1/2 UN	160	120	
*SUGGESTED WRENCHING TORQUE FOR TAPERED PIPE THREAD chart meets FUNK Engineering Procedures Manual Torque Specifications QS04.01.4 (YZS-101)							

TABLE 6-4. Tapered Pipe Thread Torque

6.1.5 Cable Clamps

Cable Clamp Size	Min. Number of Clamps	Amount of Cable to turn back in inches	Torque in lb-ft
3/16″	2	3 3/4"	7.5
1/4″	2	4 3/4"	15
5/16″	2	5 1/4"	30
3/8″	2	6 1/2″	45
1/2″	3	11 1/2″	45
5/8″	3	12″	90

TABLE 6-5. Cable Clamp Torque Values

6.2 SAE-to-Metric Conversions

This manual provides values and measurements in units according to the standards of the Society of Automotive Engineers (SAE). Table 6-6 provides the conversion factor for SAE units to SI units (metric system).

TABLE 6-6. SAE-to-Metric Conversion	ion
-------------------------------------	-----

SAE Unit	Conversion Factor	SI Units (Metric)
ft/min	x 0.3048	Metres/min (m/min)
ft/s	x 0.3048	Metres/s (m/s)
US gallon	x 3.7854	Litres (L)
US gal/min (GPM)	x 3.7854	Litres/min (L/min)
hp	x 0.7457	Kilowatts (kW)
in	x 2.54	Centimetres (cm)
in	x 25.4	Millimetres (mm)
in ³	x 16.3871	Cubic centimetres (cm ³ or cc)
lb	x 0.4535	Kilogram (kg)
lbf	x 4.4482	Newtons (N)
lbf.ft <i>or</i> ft-lb	x 1.3558	Newton metres (N.m)
lbf.in <i>or</i> in-lb	x 0.1129	Newton metres (N.m)
mph	x 1.6063	Kilometres/hour (km/h)
OZ	x 29.5735	Millilitres (ml)
psi	x 0.06894	Bar
psi	x 6.8948	Kilopascals (kPa)
psi	x 0.00689	Megapascals (MPa)

6.3 Acronyms and Abbreviations

TABLE 6-7. Acronyms and Abbreviations

Term / Symbol	Definition
1	Foot
"	Inch
A	Ampere
API	American Petroleum Institute
ASABE	American Society of Agricultural and Biological Engineers
ASTM	American Society of Testing and Materials
F	Fahrenheit
ft	Foot
ft/min	Feet per minute
ft/s	Feet per second
GPM	U.S. gallons per minute
hp	Horsepower
HPU	Hydraulic power unit
Hz	Hertz
in ³	Cubic inches
ID	Inside diameter
lb	Pound
lbf	Pounds force
lbf.ft <i>or</i> ft-lb	Pound feet <i>or</i> foot pounds
lbf.in <i>or</i> in-lb	Pound inches <i>or</i> inch pounds
mph	Miles per hour
N/A	Not applicable
OD	Outside diameter
OEM	Original Equipment Manufacturer
oz	Ounce
РН	Phase
psi	Pounds per square inch
RPM	Revolutions per minute
SAE	Society of Automotive Engineers
VAC	Volts, alternating current
VDC	Volts, direct current

CHAPTER 7 Troubleshooting

The Brandt Grain Belt Tube Conveyors have been designed to give long and trouble-free use. Minor problems do, however, occur from time to time. In the following section, we have listed many of the problems, causes and solutions to the problems that you may encounter. If you encounter a problem that is difficult to solve, even after reading through this trouble shooting section, please contact your local Brandt dealer. Before you call, please have this manual and the serial number from your Conveyor at hand.

Symptom	Possible Cause	Solution		
Conveyor will not run.	Conveyor belt loose.	Tighten and align the belt.		
	Drive belts loose.	Tighten the drive belts.		
	Drive belts worn or glazed.	Replace the drive belts and re- tension.		
	Belting frozen to the tube from operating in high humidity conditions in extreme cold.	Clear away all snow from the intake end before start up. Run the conveyor empty after use to allow the belt to dry prior to shut down.		
Conveyor belt edge is fraying.	Conveyor belt is not aligned.	Re-align the conveyor belt.		
Drive belt is rolling over on to side	Drive belt not tensioned properly	Tension Belt properly		
Drive belt wearing out	Belt not tensioned properly	Tension Belt Properly		
Poor capacity	Angle is too steep.	If possible, reposition with a lower angle.		
	Slow operating speed.	Increase operating speed.		
	Conveyor belt slipping.	Tighten and align the conveyor belt.		
Leakage at the hopper.	Flashing wore out or not positioned properly.	Replace or reposition the flashing.		
	Angle is too steep	Decrease angle of conveyor		
	Too much roll back of product in the transition area of the intake.	Reduce the feed rate into the intake.		
	Conveyor is not level from side to side	Ensure conveyor is level from side to side.		
	Lacing is torn	Replace lacing		

Symptom	Possible Cause	Solution
Leakage at the discharge.	Belt speed too high.	Reduce belt speed.
	Discharge Wiper worn out or not positioned properly.	Replace or reposition the discharge wiper.
	Over feeding the hopper. Product getting behind the belt.	Reduce the amount of incoming product.
	Tube Flanges are not aligned.	Check Intake and Discharge flanges for alignment. Grind belt path flush if necessary.
	Lacing is torn.	Replace lacing.

CHAPTER 8 Parts List

Serial No. 139000 - Present & 3850 - Present

Drawing List

- 1. 1535LPTD General Tube Assembly on page 62
- 2. 1545LPTD General Tube Assembly on page 64
- 3. Common Parts on page 66
- 4. Low Profile Intake Assembly on page 68
- 5. Discharge Assembly on page 70
- 6. Undercarriage Assembly on page 72
- 7. Optional Hydraulic Motor Drive Kit on page 74
- 8. Optional Electric Motor Drive Kit on page 76
- 9. Electric Motor Parts for Fully Configured Conveyor on page 78
- 10. Option Discharge Wrap Roller Kit on page 79

^{NS} Items not shown in drawing.

1535LPTD General Assembly



Ref #	PART NO.	DESCRIPTION	QTY
1	2077194	1535LPTD UPPER TUBE C/W DECALS	1
2	B027600	15 SERIES DISCHARGE SPOUT	1
3	2077147	TD DISCHARGE ASSEMBLY	1
4	2066040	WIND GUARD - COMMON	5
5	8000237	3/8" x 1" BOLT	70
6	8001107	3/8" LOCK WASHER	70
7	8001103	3/8" FLATWASHER - 3/8"ID x 1 1/4" OD	70
8	B021257	RETURN ROLLER	2
9	2066053	GAP PLATE	1
10	2075441	BOTTOM WIND GUARD	1
11	2072548	LOWER TUBE C/W DECALS	1
12	C2179536	INTAKE ASSEMBLY	1
13	8000364	1/2" x 1 1/2" BOLT - GR.5	34
14	8001122	1/2" LOCK WASHER	34
15	8000775	1/2" HEX NUT	34
16	2072364	HITCH RECEIVER	1
17	2076392	TRANSPORT HITCH	1
18	B0020315	3/4" x 4 1/8" L-PIN	1
19	B002091	.177" x 3 3/4" HAIR PIN CLIP	1
20	C2149040	TRANSPORT STOP	1
21	C214856A	TRACK SLIDE ASSEMBLY	1
22	B008398	1/4" CABLE x 36'	1
23	2077162	MAXIMUM HEIGHT STOP	1
24	C2144964	CABLE ANCHOR	1
25	8023370	1/2" x 1 1/4" BOLT - GR.5	6
26	8000383	1/2" x 2" BOLT - GR.5	1
27	8000784	1/2" LOCKING FLANGE NUT	7
28	2077211	RUBBER BELT - 1535 LPTD	1
29	B0291503	"BRANDT" DECAL	2
30	B0298235	"1535TD" DECAL	2
31	B0298005	."GRAIN BELT" DECAL	2
32	B029006	OILSEED DECAL	1
33	B029027	OPERATION DECAL	1
34	B029827	TRACKING WARNING DECAL	1
35	B029015	BELT SPEED DECAL	1
36	B0290108	COMBINATION DECAL	1
37	B029971	SAFE TRANSPORT DECAL	1
NS	C204176	15" BELT LACING KIT	AR
NS	C204584	15" LACING PIN KIT	AR
NS	B018623	RUBBER BELT - 15" WIDE x 5' LONG	AR
NS	B018612	RUBBER BELT - 15" WIDE x 10' LONG	AR
NS	B018614	RUBBER BELT - 15" WIDE x 20' LONG	AR

15 Series LPTD Field Belt Conveyors

1545LPTD General Assembly



Ref #	PART NO.	DESCRIPTION	QTY
1	2072565	1545LPTD UPPER TUBE C/W DECALS	1
2	B027600	15 SERIES DISCHARGE SPOUT	1
3	2077147	TD DISCHARGE ASSEMBLY	1
4	2066040	WIND GUARD - COMMON	5
5	8000237	3/8" x 1" BOLT	94
6	8001107	3/8" LOCK WASHER	94
7	8001103	3/8" FLATWASHER - 3/8"ID x 1 1/4" OD	94
8	B021257	RETURN ROLLER	3
9	2066053	GAP PLATE	1
10	2075441	BOTTOM WIND GUARD	1
11	2077168	LOWER TUBE C/W DECALS	1
12	C2179536	INTAKE ASSEMBLY	1
13	8000364	1/2" x 1 1/2" BOLT - GR.5	34
14	8001122	1/2" LOCK WASHER	34
15	8000775	1/2" HEX NUT	34
16	2072364	HITCH RECEIVER	1
17	2076392	TRANSPORT HITCH	1
18	B0020315	3/4" x 4 1/8" L-PIN	1
19	B002091	.177" x 3 3/4" HAIR PIN CLIP	1
20	C2149040	TRANSPORT STOP	1
21	C214856A	TRACK SLIDE ASSEMBLY	1
22	B008396	1/4" CABLE x 44'	1
23	2077162	MAXIMUM HEIGHT STOP	1
24	C2144964	CABLE ANCHOR	1
25	8023370	1/2" x 1 1/4" BOLT - GR.5	6
26	8000383	1/2" x 2" BOLT - GR.5	1
27	8000784	1/2" LOCKING FLANGE NUT	7
28	2077111	RUBBER BELT - 1545 LPTD	1
29	B0291503	"BRANDT" DECAL	2
30	B0298241	"1545TD" DECAL	2
31	B0298005	."GRAIN BELT" DECAL	2
32	B029006	OILSEED DECAL	1
33	B029027	OPERATION DECAL	1
34	B029827	TRACKING WARNING DECAL	1
35	B029015	BELT SPEED DECAL	1
36	B0290108	COMBINATION DECAL	1
37	B029971	SAFE TRANSPORT DECAL	1
NS	C204176	15" BELT LACING KIT	AR
NS	C204584	15" LACING PIN KIT	AR
NS	B018623	RUBBER BELT - 15" WIDE x 5' LONG	AR
NS	B018612	RUBBER BELT - 15" WIDE x 10' LONG	AR
NS	B018614	RUBBER BELT - 15" WIDE x 20' LONG	AR

Common Parts

2)




Ref #	PART NO.	DESCRIPTION	QTY
1	C214856	TRACK SLIDE WELDMENT	1
2	C2140158	TRACK SLIDE PIN	1
3	C314453	2 1/2" OD CABLE SHEAVE	1
4	8000117	1/4" x 3/4" BOLT	1
5	8000734	1/4" FLANGE LOCK NUT	1
6	8000539	3/4" x 2 1/2" BOLT	4
7	B017255	3/4" ID BEARING - 6230-3/4-2RS	4
8	8000809	3/4" HEX NUT	8
9	8001137	3/4" LOCK WASHER	4
10	C2149041	HOPPER HANDLE ASSEMBLY	1
11	8000261	3/8" x 2" BOLT	1
12	8001100	3/8" FLATWASHER	2
13	B002310	SPACER - 5/8" OD x .512" ID x 1" LONG	1
14	B008061	3/16" CABLE THIMBLE	1
15	B008060	3/16" CABLE CLAMP	2
16	8014204	3/8" STOVER LOCK NUT	4
17	8000250	3/8" x 1 1/2" BOLT	3
18	C2158068	HOPPER HANDLE MOUNT	2
19	C2158136	HOPPER HANDLE SPACER	1
20	B002319	SPACER - 1/2" OD x 3/8" ID x 1/2" LONG	1
21	C2148005	ANGLE INDICATOR	1
22	B029701	ANGLE INDICATOR DECAL	1
23	B0281876	1 1/4" ROUND PLUG	18
24	8023419	3/4" x 8" BOLT - GR.5	2
25	8023319	3/4" LOCK NUT	2
26	B030250	WINCH	1
27	2055100	WINCH PLATE	1
28	8000248	3/8" x 1 1/2" CARRIAGE BOLT	3
29	8001107	3/8" LOCKWASHER	3
30	8000755	3/8" HEX NUT	3
31	8000237	3/8" x 1" BOLT	3
32	8000762	3/8" SERRATED FLANGE NUT	3
33	8001100	3/8" SAE FLAT WASHER	2

Low Profile Intake Parts



REF	PART NO.	DESCRIPTION	Q τγ	Ref	PART NO.	DESCRIPTION	QTY
1	2076070	15LPTD INTAKE	1	31	B029950	GREASE DECAL	4
2	C215030	3" INTAKE ROLLER	4	32	8022197	TRACKING DECAL, LEFT, RIGHT	1
3	C2137860	S ROLLER ADJUSTMENT PLATE	1	33	2071466	PATENT DECAL	1
4	C211615	SHAFT ADJUSTMENT PLATE	2	34	8001135	3/4" SAE FLAT WASHER	3
5	C2147927	BEARING SPACER	4	35	8000480	5/8" x 2 1/4" CARRIAGE BOLT	14
6	B0172015	1 1/4" BEARING - 2 BOLT	8	36	8011879	5/8″ SF NUT	16
7	2067858	BEARING COVER	8	37	8025187	5/8" x 3" CARRIAGE BOLT	3
8	2071356	BEARING COVER NUT	16	38	8000796	5/8" HEX NUT	8
9	2072364	HITCH RECEIVER	1	39	8000124	1/4" x 1" BOLT - GR.5	10
10	C2158013	LOWER EZTRAK PLATE	1	40	8000237	3/8" x 1" BOLT - GR.5	7
11	B027569L	S ROLLER FLASHING - LEFT	1	41	8000755	3/8" HEX NUT	2
12	B027569R	S ROLLER FLASHING - RIGHT	1	42	8014204	3/8" LOCK NUT	13
13	B021740L	HOPPER SPRING - LEFT	1	43	8000133	1/4" x 1 1/2" CARRIAGE BOLT	14
14	B021740R	HOPPER SPRING - RIGHT	1	44	8000121	1/4" x 1" CARRIAGE BOLT	3
15	C2158011	HOPPER RAIL	1	45	8000731	1/4" LOCK NUT	28
16	B021415	HOPPER CANVAS	1	46	8025960	#10 x 1" TEK SCREW	2
17	B027561L	LOWER HOPPER FLASHING - LEFT	1	47	8003578	#10 FLAT WASHER	2
18	B027561R	LOWER HOPPER FLASHING - RIGHT	1	48	8000361	1/2" x 1 1/2" CARRIAGE BOLT	6
19	B027562L	UPPER HOPPER FLASHING - LEFT	1	49	8023369	1/2" SF NUT	6
20	B027562R	UPPER HOPPER FLASHING - RIGHT	1	50	8014348	1/4" FLAT WASHER	6
21	C2137862	FABRIC STRAP	2	51	C2179539L	TENSION INDICATOR - LEFT	1
22	B027563	HOPPER END FLASHING	1	52	C2179539R	TENSION INDICATOR - RIGHT	1
23	C2158012	HOPPER END STRAP	1	53	C2179541L	TENSIONER - LEFT	1
24	B027564	DOZER FLASHING	1	54	C2179541R	TENSIONER - RIGHT	1
25	B024085	HOPPER RAIL COVER	1	55	B0210731	SPRING	2
26	C211796	SHORT FABRIC CLAMP	2	56	8000796	5/8' HEX NUT	2
27	B008097	PULLEY BLOCK	3	57	B0026019	5/8" x 35" BOLT	2
28	B008405	3/16" CABLE x 14' 7"	1	58	C2179542	INTAKE PLATE	1
29	B029450	TRACKING DECAL - RIGHT	1	59	C2179543	TENSIONER RETAINER	2
30	B0294501	TRACKING DECAL - LEFT	1	60	2074487	BEARING COVER	2

Discharge Assembly



REF #	PART NO.	DESCRIPTION	Qτγ
1	B027600	DISCHARGE SPOUT	1
2	2077139	DISCHARGE	1
3	C200633	DISCHARGE CAP	1
4	2077144	DISCHARGE BOTTOM GUARD	1
5	B027608	RUBBER WIPER	1
6	2077141	ROLLER ADJUSTER	1
7	2077146	WRAP ROLLER HOLE COVER	2
8	B021250	ROLLER - 1.9"OD x 18" LONG	1
9	C2179558	DRIVE ROLLER	1
10	B0172015	1.25" BEARING - 2 BOLT FLANGE	2
11	8000124	1/4" x 1" BOLT	6
12	8000230	3/8" x 3/4" BOLT	8
13	8025187	5/8" x 3" CARRIAGE BOLT - FULL THREAD	1
14	8000731	1/4" LOCK NUT	6
15	8000796	5/8" HEX NUT	3
16	8014348	1/4" FLAT WASHER	6
17	8001100	3/8" FLAT WASHER	8
18	8011879	5/8" SERRATED FLANGE NUT	8
19	B029450	DECAL - TRACKING RIGHT	1
20	B029966	DECAL - CONVEYOR DISCHARGE	2
21	B029967	DECAL - DOWNSPOUT WARNING	2
22	8000480	5/8" x 2 1/4" CARRIAGE BOLT	8
23	C2168199	BACKING PLATE	1
24	8001135	3/4" SAE FLATWASHER	1
25	C2147927	BEARING SPACER	1
26	2067858	BEARING COVER	1
27	2071656	BEARING COVER NUT	2
28	8000237	3/8" x 1" BOLT	4
29	8014204	3/8" LOCK NUT	4

Undercarriage Parts



Ref #	PART NO.	DESCRIPTION	Qτγ
1	2072581	AXLE WELDMENT c/w DECALS	1
2	2077033	A-FRAME ARM WELDMENT - 1535TD	2
2	2077036	A-FRAME ARM WELDMENT - 1545TD	2
3	2077016	AXLE ARM WELDMENT - 1535TD	2
3	2077020	AXLE ARM WELDMENT - 1545TD	2
4	C214024	A-FRAME CROSS BRACE	1
5	2077171	AXLE FRAME CROSS BRACE - 1535TD	1
5	2077174	AXLE FRAME CROSS BRACE - 1545TD	1
б	B0275102	PLASTIC MANUAL HOLDER	1
7	C314500	MANUAL HOLDER MOUNT	2
8	2072607	HITCH STORAGE PLATE	1
9	B002011	5/16" x 2 1/2" SQ. U-BOLT x 3 1/4" LG	2
10	8023520	5/16" SERRATED FLANGE NUT	4
11	8000546	3/4" x 3" BOLT - GR.5	2
12	8023319	3/4" LOCK NUT	2
13	8001135	3/4" FLAT WASHER	2
14	8023375	1/4" LOCK NUT	4
15	B0020106	1/4" x 2 1/4" SQ. U-BOLT x 5" LG	2
16	B0020161	3/8" x 4" SQ. U-BOLT x 5" LG	4
17	8014204	3/8" LOCK NUT	16
18	B0020162	3/8" x 4" SQ. U-BOLT x 3" LG	4
19	2077104	AXLE ARM MOUNTING PIN	2
20	C2179492	PIN COLLAR	2
21	8000273	3/8" x 2 1/2" BOLT - GR.5	2
22	B0020108	1/4" x 2 1/2" SQ. U-BOLT x 3 1/2" LG	2
23	8000117	1/4" x 3/4" BOLT - GR.5	3
24	8014348	1/4" FLAT WASHER	3
25	8000734	1/4" LOCKING FLANGE NUT	7
26	B011209	TIRE & RIM	2
27	B0116408	WHEEL NUT	10
28	B0116406	GREASE SEAL - 5 BOLT HUB	1/HUB
29	B0116403	INNER BEARING CONE	1/HUB
30	B0116402	INNER BEARING CUP	1/HUB
31	B0116401	HUB ONLY - 5 BOLT HUB	1/HUB
32	B0116404	OUTER BEARING CUP	1/HUB
33	B0116405	OUTER BEARING CONE	1/HUB
34	B002073	1 1/2" OD x 1" ID x 1/8" MACHINERY BUSHING	1/HUB
35	B001525	1"-14 SLOT NUT	1/HUB
36	B002047	3/16" x 1 1/4" COTTER PIN	1/HUB
37	B0116407	DUST CAP - 5 BOLT HUB	1/HUB
NS	B011640	5 BOLT HUB COMP c/w 28 to 39	AR
38	8023674	1" FLAT WASHER	2

15 Series LPTD Field Belt Conveyors

Optional Hydraulic Motor Drive Kit



REF #	PART NO.	DESCRIPTION	Q τγ
1	B0190475	HYD MOTOR-H SER 7.9 IN3- KEY	1
2	C203116	HYD MOTOR MOUNT	1
3	C203117	HYD MOTOR GUARD	2
4	B009409	SPROCKET 50-17 x 1.25"	1
5	B009410	SPROCKET 50-17 x 1" B W/KW	1
6	B009601	CHAIN-50-2x17 PITCH w/OFF&CONN	1
7	8000230	BOLT 3/8 x 3/4 UNC GR5 PLT	4
8	8000990	SCREW TEK #10 x 5/8 LG	4
9	B0191476	HH-1/2"x 37'-1/2"MPTx#10FJICX	2
10	B019200	HFIT PIONEER CPLR MALE 1/2FNPT	2
11	B0194345	HFIT, #10 MJIC x #10 MORB ADPTER	2
12	B019537	HFIT, CHECK VALVE 1/2" MNPT-1/2"FNPT	1
13	B689169	KEY, 1/4"x 1 1/2" LONG	1
14	B001409	FLANGENUT 1/2" UNC SERRATED	4
15	B021607	DOUBLE TUBING CLAMP	1
16	8000240	SCREW 3/8 x 1 NC SRTD FLNG PLT	1
17	8022673	HFIT, #10 MJIC x #8 MJIC x #10 FJICX TEE	2
18	B0194638	HFIT, 1/2" FPT x #8 FJIC ADAPTER	1
19	B0192605	HH- 3/8" x 20" - 1/2" MPT x #8 FJICX	1

15 Series LPTD Field Belt Conveyors

Optional Electric Motor Drive Kit



REF #	Part No.	DESCRIPTION	Q ΤΥ
1	C203119	BELT GUARD	1
2	B018075X	BELT BX-82	2
2	B018707	BELT BX-75 (FULLY CONFIGURED CONVEYOR)	1
3	B0181206	PULLEY-2BK190H - NO HUB	1
3	B018121	PULLEY - 2B 15.35 x 1 1/4" BORE (FULLY CONFIGURED CONV)	1
3	B0180206	H 1 1/4" TAPERED HUB	1
4	B0180314	2B PULLEY, 3.35"OD (SMALL MOTOR)	1
4	B018713	2B PULLEY, 3.75"OD (LARGE MOTOR)	1
NS	B018020	H 1 1/8" TAPERD HUB	1
5	C2149011	GUARD BACK	1
6	C2149014	TOP DRIVE MOTOR BASE	1
7	C2149012	TOP DRIVE MOTOR MOUNT	1
8	C2149013	ADJ MOTOR LEG	2
9	8000124	BOLT 1/4 x 1 UNC GR5 PLT	2
10	8000230	BOLT 3/8 x 3/4 UNC GR5 PLT	3
11	8000410	BOLT 1/2" x 3" FULL THREAD UNC GR5 PLT	2
12	8000235	CARRIAGE BOLT 3/8 X 1 PLT	4
13	8000731	LOCKNUT 1/4 NYLOCK GR5	2
14	8014204	LOCKNUT 3/8 STOVER	2
15	8000775	NUT 1/2 HEX	4
16	8000784	FLANGENUT 1/2	2
17	8001100	FLATWASHER 3/8	2
18	8000762	FLANGENUT 3/8 UNC SERATED PLT	8
19	8023316	SCREW 3/8 x 3/4 NC SRTD FLNG	4
20	8023365	SCREW 1/2 x 1 1/4 NC SRTD FLNG	4
21	8001118	FLATWASHER 1/2	4
22	8014348	FLATWASHER 1/4	2
23	C203122	GUARD LATCH	1
24	B0010819	CARRIAGE BOLT 3/8 X 3/4	2
25	B021607	DOUBLE TUBING CLAMP	3
26	8000240	SCREW 3/8 x 1 NC SRTD FLNG PLT	3
27	B689169	KEY 1/4 x 1 1/2	2
28	B0219992	RUBBER LATCH	1
29	B0180205	H 1 3/8" TAPERED HUB	1

Electric Motor Parts for Fully Configured Conveyor



Ref #	PART NO.	DESCRIPTION	Q ΤΥ
1	B091942	10 HP MOTOR	1
2	2057903	STARTER ASSEMBLY	1
3	2057904	WIRE, TECK, 6/2, 444" - 1545	1
3	2057916	WIRE, TECK, 6/2, 324" - 1535	1
4	2057909	STARTER BOX MOUNT	1
5	8000237	3/8" x 1" BOLT - GR.5	6
б	8000762	3/8" SERRATED FLANGE NUT	6

Optional Discharge Wrap Roller Kit



Ref #	Part No.	DESCRIPTION	Q ΤΥ
1	C215847	ROLLER	1
2	C2147927	BEARING SPACER	1
3	8011879	5/8" SERRATED FLANGE NUT	4
4	8000480	5/8" x 2 1/4" CARRIAGE BOLT	4
5	B0172015	1.25" BEARING - 2 BOLT FLANGE	2
6	2067858	BEARING COVER	2
7	2071356	BEARING COVER NUT	4

15 Series LPTD Field Belt Conveyors



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