Kwik-Belt

1800 Series Models: 1815
2200 Series Models: 2215

Transfer Conveyor
Owner’s Manual

Norwood Sales Inc.
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Read and Understand

WARNING

Read and follow all instructions and safety precautions in this manual and all other manuals for products associated with this machine as well as in all on-product warning decals. Failure to do so could result in death or serious injury, or property damage. Contact your Kwik Belt dealer if any of your decals are missing or illegible or you have questions.

Preface
This manual is intended for use with the following Kwik Belt Transfer Conveyor Models:

1800 Series
1815

2200 Series
2215

Revision History

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<th>Date</th>
<th>Reasons for Change</th>
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<td>50-5-00003</td>
<td>November 1st 2017</td>
<td>Initial Release</td>
</tr>
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<td>50-5-00003</td>
<td>May 4th 2018</td>
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1 - GENERAL INFORMATION

Note to the Owner

This manual contains important information about the safe operation, adjustment and maintenance of your Kwik Belt Transfer Conveyor. Refer to the table of contents at the beginning or the Index at the end of this manual for locating specific items about your machine.

DO NOT operate or permit anyone to operate or service this machine until you or the other persons have read this manual. Use only trained operators who have demonstrated the ability to operate and service this machine correctly and safely.

All persons who will be operating this machine shall possess applicable local age work permits.

This Kwik Belt Transfer Conveyor, with standard equipment and authorized attachments, is intended to be used for seed and grain with stainless steel configurations for dry fertilizer applications.

DO NOT use this machine for any purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use.

Use only approved accessories and attachments designed for your machine.

Consult your dealer on changes, additions or modifications that may be required for your machine.

Do not make any unauthorized modifications to your machine.

This operator's manual is to be stored in the “Operators Manual Canister” on the left side of the machine on the upper transport arm for reference during field operation. (See Fig. # 1-1) Make sure this manual is complete and in good condition. Contact your dealer to obtain additional manuals and approved service parts. Your dealer has technicians with special training that know the best methods of repair and maintenance for your Kwik Belt Transfer Conveyor.

Fig. # 1-1 Operators Manual Location

Your Kwik Belt Transfer Conveyor dealer will instruct you in the general operation of your new equipment. Your dealer’s staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your machine.

Fig. # 1-2 Kwik Belt Transfer Conveyor
Kwik Belt Transfer Conveyor Model / Serial Number Location

Always give your authorized Kwik Belt dealer the Model / Serial Number of your Kwik Belt product when ordering parts, requesting service, or any other information to provide the most efficient service.

The Model / Serial Number is identified in (See Fig. # 1-3) below.

Make a copy of the number below and keep in a safe place. If the machine is stolen, report the numbers to your local law enforcement agency.

Write the Model / Serial Number on the line provided.

Model Number __________________________________
Serial Number __________________________________

Fig. # 1-3 Model / Serial Number Decal

The Model / Serial Number is located where indicated below. (See Fig. # 1-4)

Fig. # 1-4 Model / Serial Number Decal Location
Determining Left and Right Side of the Machine

**Operator Orientation** - The directions Front (1), Back (2), Left (3), and Right (4) as mentioned throughout the manual, are determined when standing at the discharge spout and looking toward the intake hopper.

**Determining Orientation Using Directional Arrows**

The symbols shown below, may be illustrated on certain pages in this manual, and where indicated, determine the front of the machine.
This Page Is Intentionally Left Blank
2 - Safety Information

Safety Rules And Signal Word Definitions

Personal Safety

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Read and understand all the safety messages in this manual and associated equipment manuals before you operate or service the machine. Obey all safety messages that follow this symbol to avoid possible death or serious injury.

Throughout this manual and on machine decals, you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

⚠️ **DANGER** DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury. The color associated with DANGER on the machine decals is RED.

⚠️ **WARNING** WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury. The color associated with WARNING on the machine decals is ORANGE.

⚠️ **CAUTION** CAUTION used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. The color associated with CAUTION on the machine decals is YELLOW.

**FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.**

Machine Safety

**NOTICE** Notice indicates a situation which, if not avoided, could result in machine or property damage. The color associated with Notice on the machine decals is BLUE.

**IMPORTANT** Important indicates a situation which, if not avoided, could result in machine or property damage. The color associated with Important on the machine decals is WHITE.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

**NOTE** Note indicates additional information which clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.
Safety Rules
Read Entire Section Before Use.

Understand that your safety and the safety of other persons is measured by how you service and operate this machine. Know the positions and operations of all controls before you try to operate. MAKE SURE YOU CHECK ALL CONTROLS IN A SAFE AREA BEFORE STARTING YOUR WORK.

READ THIS MANUAL COMPLETELY AND MAKE SURE YOU UNDERSTAND THE CONTROLS. All equipment has a limit. Make sure you understand the stability and load characteristics of this machine before you start to operate.

NOTE: Safety messages in this section point out specific safety hazards which can be encountered during the normal operation and maintenance of your machine. These safety messages also give possible ways of dealing with these conditions.

The safety information given in this manual does not replace safety codes, insurance needs, federal, state and local laws. Make sure your machine has the equipment required by the local laws and regulations.

Owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) regulation 1928.57.

The most important safety device on this equipment is a SAFE operator. It is the operator’s responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow them. All accidents can be avoided.

A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.

Additional safety messages are used in the text of the manual to indicate specific safety hazards. See your dealer for more information if you have any questions.

Use caution when operating the machine on slopes. Raised equipment, partially full or full conveyor belt and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Travel speed must be such that complete control and machine stability is maintained at all times. Reduce speed when turning, crossing slopes and when on rough, slick or muddy surfaces.

Never permit anyone to ride on any part of the machine.

Some illustrations in this manual will show shields or cover panels removed for purposes of clarity. DO NOT operate this machine with any of the shields or cover panels removed.

Never operate the machine under the influence of alcohol, drugs or while otherwise impaired.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety. Contact local authorities or utilities to obtain safe clearance distances from high voltage power lines.

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

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

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

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

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

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair and other loose or hanging items should be avoided as they can become entangled in moving parts.

Wear protective equipment when appropriate.

DO NOT attempt to remove material from any part of the machine while it is being operated or components are in motion.

Make sure all guards and shields are in good condition and properly installed before operating the machine. Never operate the machine with shields removed. Always close access doors or panels before operating the machine.

Dirty or slippery steps, ladders, walkways and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment at any time.
Review this manual and any other associated manuals before each season of use.

Never allow anyone unfamiliar, untrained, or complacent to operate the machine.

Use extreme care when cleaning, filling, or adjusting the machine.

**DO NOT** work around rotating equipment. Loose clothing, rings, watches, etc. may get caught and cause death or serious injury.

**Hydraulic Safety**

Hydraulic oil leaking under pressure can penetrate the skin, causing death or serious injury, or infection.

**DO NOT** use your hand to check for leaks. Use a piece of cardboard or plywood.

Stop engine, remove key and relieve the pressure before connecting or disconnecting fluid lines.

Make sure all components are in good condition and tighten all connections before starting the engine or pressurizing the system.

Do not attempt any makeshift repairs to the hydraulic fittings or hoses by using tape, clamps or cements. The hydraulic system operates under extremely high-pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.

Replace any worn, cut, abraded, flattened or crimped hoses.

If hydraulic fluid penetrates the skin, seek medical attention immediately.

Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

**Gas Engine Safety**

**BEFORE STARTING ENGINE, READ AND UNDERSTAND THE OPERATING AND MAINTENANCE INSTRUCTIONS THAT CAME WITH YOUR ENGINE.**

**WARNING: DO NOT**

1. **DO NOT** run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odorless and deadly poison.
2. **DO NOT** place hands or feet near moving or rotating parts.
3. **DO NOT** store, spill, or use gasoline near an open flame, or devices such as a stove, furnace, or water heater which use a pilot light or devices which can create a spark.
4. **DO NOT** refuel indoors where area is not well ventilated. Outdoor refueling is preferred.
5. **DO NOT** fill fuel tank while engine is running. Allow engine to cool for 5 minutes before refueling. Store fuel in approved safety containers.
6. **DO NOT** remove fuel tank cap while engine is running.
7. **DO NOT** operate engine if gasoline is spilled. Move machine away from the spill and avoid creating any ignition until the gasoline has evaporated.
8. **DO NOT** smoke when filling fuel tank.
9. **DO NOT** choke carburetor to stop engine. Whenever possible, gradually reduce engine speed before stopping.
10. **DO NOT** run engine at excessive speeds. This may result in injury.
11. **DO NOT** tamper with governor springs, governor links or other parts which may increase the governed engine speed.
12. **DO NOT** tamper with the engine speed selected by the original equipment manufacturer.
13. **DO NOT** check for spark with spark plug or spark plug wire removed. Use an approved tester.
14. **DO NOT** crank engine with spark plug removed. If engine is flooded, place throttle in “FAST” position and crank until engine starts.
15. **DO NOT** strike flywheel with a hard object or metal tool as this may cause flywheel to shatter in operation. Use proper tools to service engine.
16. **DO NOT** operate engine without a muffler. Inspect periodically and replace, if necessary. If engine is equipped with muffler deflector, inspect periodically and replace, if necessary, with correct deflector.
17. **DO NOT** operate engine with an accumulation of grass, leaves, dirt or other combustible materials in the muffler area.
18. **DO NOT** use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.

19. **DO NOT** touch hot muffler, cylinder or fins because contact may cause burns.

20. **DO NOT** run engine with air cleaner or air cleaner cover removed.

**WARNING:** DO

1. **ALWAYS DO** remove the wire from the spark plug when servicing the engine or equipment **TO PREVENT ACCIDENTAL STARTING**. Disconnect the negative wire from the battery terminal if equipped with a 12 volt starting system.

2. **DO** keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.

3. **DO** examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.

4. **DO** use fresh gasoline. Stale fuel can gum carburetor and cause leakage.

5. **DO** check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

**Operating Safety**

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

2. Hydraulic drives: Stop the engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging any area of the machine.

3. Electric motor drives: Disconnect and disable electrical supply completely and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

4. Gas engine drives: Place all controls in neutral place all controls in neutral by disengaging the slide lever, stop the engine, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

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

6. Be familiar with the machine hazard area. If anyone enters hazard area, shut down machine immediately. Clear the area before restarting.
**Personal Protective Equipment (PPE)**

Wear personal protective equipment. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant shoes
- Safety glasses or goggles
- Heavy gloves
- Hearing protection
- Respirator or filter mask
- Protective clothing

**Lock-Out Tag-Out Safety**

Before you start servicing the machine: Turn machine OFF, shut down and lock out power source, remove key, unplug power cord and wait for all moving parts to stop. Attach a “Do Not Operate” warning tag to the machine in an area that will be visible.

1. Establish a formal Lock-Out Tag-Out program for your operation.
2. Train all operators and service personnel before allowing them to work around the area.
3. Provide tags on the machine and a sign-up sheet to record tag out details.

**General Maintenance Safety**

1. Review the Operator’s Manual and all safety items before working with, maintaining or operating the Transfer Conveyor.
2. Place all controls in neutral or off, stop engine or motor, remove ignition key or disable power source and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Do not attempt to clean, lubricate, clear obstructions or make adjustments to the machine while it is in motion or while the engine is running.
4. Follow good shop practices:
   - Keep service area clean and dry.
   - Be sure electrical outlets and tools are properly grounded.
   - Use adequate light for the job at hand.
5. Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition.
6. Relieve pressure from hydraulic circuit before servicing or disconnecting from tractor.
7. **DO NOT** step on or touch moving Transfer Conveyor belt.
8. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
9. Clear the area of bystanders, especially children, when carrying out any maintenance and repairs or making any adjustments.
10. Place stands or blocks under the frame before working beneath the machine.
11. Before resuming work, install and secure all guards when maintenance work is completed.
12. Support the Transfer Conveyor main tube before attempting maintenance on the under carriage assembly. Where possible, the Transfer Conveyor should be in the full down position.
13. Keep safety signs clean. Replace any sign that is damaged or not clearly visible.
14. Always make sure working area is clear of tools, parts, other persons and pets before you start operating the machine.
2 - SAFETY INFORMATION

⚠️ Refueling Safety ⚠️

1. Handle fuel with care. It is highly flammable.
2. Allow engine to cool for 5 minutes before refueling. Clean up spilled fuel before restarting engine.
3. Do not refuel the machine while smoking or when near open flame or sparks.
4. Fill fuel tank outdoors.
5. Prevent fires by keeping machine clean of accumulated trash, grease and debris.

⚠️ Placement Safety ⚠️

1. Move with a tractor or vehicle capable of the load.
2. Use Transfer Conveyor Handles only, when moving by hand.
3. Keep conveyor discharge end as low as possible.
4. Chock the conveyor and tractor wheels front and rear before operating.
5. Locate the machine to provide ample space for trucks to unload.
6. Keep Conveyor as low as possible when moving. Raise only when it is next to storage facility.
7. Be familiar with machine hazard area. If anyone enters hazard areas, shut down machine immediately. Clear the area before restarting.
8. Operate the Conveyor on level ground free of debris. If ground is uneven, anchor the Conveyor to prevent tipping or upending.

⚠️ Wheels and Tires ⚠️

Make sure tires are correctly inflated. Do not exceed recommended load or pressure. Follow instructions in the manual for proper tire inflation.

Always have a qualified tire technician service the tires and rims. If a tire has lost all pressure, take the tire and rim to a tire shop or your dealer for service. Explosive separation of the tire can cause death or serious injury.

⚠️ Electrical Storm Safety ⚠️

Do not operate machine during an electrical storm.

If you are on the ground during an electrical storm, stay away from machinery and equipment. Seek shelter in a permanent, protected structure.

If an electrical storm should strike during operation, remain in the cab. Do not leave the cab. Do not make contact with the ground or objects outside the machine.

⚠️ Working at Heights (If Applicable) ⚠️

Do not stand on surfaces which are not designed as steps or platforms.

Do not use the machine as a lift, ladder or platform for working at heights.

⚠️ Noise Level Safety ⚠️

Exposure to loud noises can cause hearing damage. Always wear hearing protection when operating noisy equipment or when working in a noisy environment.

⚠️ Chemical Safety and the Environment ⚠️

Soil, air, and water are vital factors of agriculture and life in general. When legislation does not yet rule the treatment of some of the substances which are required by advanced technology, sound judgment should govern the use and disposal of products of a chemical and petrochemical nature.

NOTICE: The following are recommendations which may be of assistance:

- Become acquainted with and ensure that you understand the relative legislation applicable to your country.
- Where no legislation exists, obtain information from suppliers of oils, filters, batteries, fuels, antifreeze, cleaning agents, etc., with regard to their effect on man and nature and how to safely store, use and dispose of these substances.
- Agricultural consultants will, in many cases, be able to help you as well.

Helpful Hints

- Avoid filling tanks using cans which may cause considerable spillage.
- In general, avoid skin contact with all fuels, oils, acids, solvents, etc. Most of them contain substances which may be harmful to your health.
- Modern oils contain additives. Do not burn contaminated fuels and or waste oils in ordinary heating systems.
- Avoid spillage when draining off used gearbox and hydraulic oils, etc. Do not mix drained fluids with lubricants. Store drained fluids safely until they can be disposed of properly to comply with local legislation and available resources.
- Repair any leaks or defects in the hydraulic system immediately.
- Do not increase the pressure in a pressurized circuit as this may lead to a component failure.
- Protect hoses during welding as penetrating weld splatter may burn a hole or weaken them, allowing the loss of hydraulic fluid.
Fig. # 2-7 Workplace Hazard Area
Fig. # 2-8 Workplace Hazard Area (Electric Drive)
Fig. # 2-9 Workplace Hazard Area (Hydraulic Drive)
Fig. # 2-10 Workplace Hazard Area (Gas Engine Drive)
Transport Safety

1. Read and understand ALL the information in the Operator’s Manual regarding procedures and SAFETY when moving or transporting the machine.

2. Check with local authorities regarding conveyor transport on public roads. Obey all applicable laws and regulations.

3. Always travel at a safe speed. Use caution when making corners or meeting traffic. Travel speed should be such that complete control and machine stability is maintained at all times.

4. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.

5. Do not allow riders on the Conveyor or the tractor when transporting.

6. Attach Conveyor to towing vehicle with a pin and retainer. Always attach the safety chain.

7. Lower Conveyor to its lowest position for transporting. Keep lift point at drawbar height.

8. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.

9. Do not exceed 25 m.p.h. (40 km/h). Reduce speed on rough roads and surfaces.

10. Always use hazard warning flashers on tractor when transporting unless prohibited by law.

11. Slow down and signal before turning.

12. Follow correct towing procedure for equipment with or without brakes.

Fig. # 2-12 Transport Hazard Area Schematic
**Safety Decals**

The following safety decals are placed on your machine as a guide for your safety and for those working with you. Walk around the machine and note the content and location of these safety decals before operating your machine.

Keep safety decals clean and legible. Clean safety decals with a soft cloth, water, and a gentle detergent. Do not use solvent, gasoline, or other harsh chemicals. Solvents, gasoline, and other harsh chemicals may damage or remove safety decals.

Replace all safety decals that are damaged, missing, painted over, or illegible. If a safety decal is on a part that is replaced, make sure the safety decal is installed on the new part. See your dealer for replacement safety decals.

Safety decals that display the “Read Operator’s Manual” symbol are intended to direct the operator to the operator’s manual for further information regarding maintenance, adjustments, or procedures for particular areas of the machine. When a safety decal displays this symbol, refer to the appropriate page of the operators manual.

**NOTE:** Replacement decals are available from your dealer.

**Safety Decal Locations**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY</th>
<th>ITEM</th>
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<th>QTY</th>
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<tr>
<td>1</td>
<td>90-44-0295</td>
<td>Decal, Warn-Read and Understnd-Man Holdr</td>
<td>1</td>
<td>6</td>
<td>90-44-0261</td>
<td>Decal, Warning Open Belt Conveyor</td>
<td>2</td>
</tr>
<tr>
<td>2*</td>
<td>90-44-0021</td>
<td>Decal, Danger Missing Guard (2 x 3.5)</td>
<td>1</td>
<td>7</td>
<td>90-44-0262</td>
<td>Decal, Safety Information</td>
<td>1</td>
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<tr>
<td>3*</td>
<td>90-44-0167</td>
<td>Decal, Rotating Parts Hazard Decal</td>
<td>1</td>
<td>8</td>
<td>90-44-0269</td>
<td>Decal, Notice Wheel Movement</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>90-44-0257</td>
<td>Decal, Warning Transport Hazard</td>
<td>1</td>
<td>9</td>
<td>90-44-0264</td>
<td>Decal, Warning Upending Hazard</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>90-44-0260</td>
<td>Decal, Warning Entanglement Hazard</td>
<td>4</td>
<td>10</td>
<td>90-44-0296</td>
<td>Decal, Warn - Entglemnt &amp; Open Belt Haz</td>
<td>1</td>
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* Not shown in this view

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*Fig. # 2-13 Safety Decal Locations (Gas Engine Drive Option)*
Safety Decal Locations Cont...

Fig. # 2-14 Safety Decal Locations (Gas Engine Drive Option)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
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<td>Decal, Warn - Entnglemt &amp; Open Belt Haz</td>
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Safety Decal Locations Cont...

Fig. # 2-15 Safety Decal Locations (Electric Drive Option)

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<td>90-44-0295</td>
<td>Decal, Warning-Read and Understand Man Holder</td>
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<td>Decal, Warning Entanglement Hazard</td>
<td>4</td>
<td>9</td>
<td>90-44-0296</td>
<td>Decal, Warning - Entanglement and Open Belt Hazard</td>
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<td>Decal, Electrocution Hazard</td>
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* Not shown In this view
2 - SAFETY INFORMATION

Safety Decal Locations Cont...

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<th>QTY.</th>
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<th>QTY.</th>
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<td>Decal, Warning Transport Hazard</td>
<td>7</td>
<td>7</td>
<td>90-44-0295</td>
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<td>90-44-0173</td>
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<td>Decal, Warning Upending Hazard</td>
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</tr>
</tbody>
</table>

* Not shown in this view
SAFETY INFORMATION

Failure to follow these instructions can cause 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.
- If the manual, guards, or decals are missing or damaged, contact the 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.

Fig. # 2-17 Warning Decal Qty 1 Per Machine P/N 90-44-0262

Fig. # 2-18 Safety Decal Location
WARNING

Improper operation or maintenance can result in serious injury or death.

Read and understand the Operator's Manual, and all safety signs before using or maintaining the machine. If you do not understand the information in the manual, consult your supervisor, the owner, or the manufacturer.

Fig. # 2-19 Warning Decal Qty 1 Per Machine P/N 90-44-0295

Fig. # 2-20 Safety Decal Location

(See Fig. # 2-21)
WARNING

UPENDING HAZARD
Can cause serious injury or death.

- Anchor intake end and/or support discharge end to prevent upending.
- Intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.
- Do not raise intake end above tow bar height.
- Empty conveyor and fully lower before moving.

Fig. # 2-21 Warning Decal Qty 1 Per Machine P/N 90-44-0264

Fig. # 2-22 Safety Decal Location
DANGER
MISSING GUARD HAZARD
To Prevent Injury or Death:
1. Shut off and lockout power source.
2. Reattach guard before operating.

90-44-0021

Fig. # 2-23 Danger Decal Qty 1 Per Machine P/N 90-44-0021

(See Fig. # 2-23)

DANGER
MISSING GUARD HAZARD
Machine is shown with guard removed for illustrative purposes.

• Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
• Keep body, hair, and clothing away from moving conveyor belt and rollers.
• Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

Fig. # 2-24 Safety Decal Location Electric Drive Option

(See Fig. # 2-23)

Fig. # 2-25 Safety Decal Location (Gas Engine Drive Option)
**WARNING**

**ROTATING PART HAZARD**

Can cause serious injury or death.

1. Keep hands, feet, clothing and hair away from moving parts.
2. Do not operate with guards removed.
3. Keep others away from moving parts.

Fig. # 2-26 Warning Decal Qty 1 Per Machine, P/N 90-44-0167

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Fig. # 2-27 Warning Decal Location (Gas Engine Drive Option)

(See Fig. # 2-26)

Fig. # 2-28 Warning Decal Location (Electric Drive Option)

(See Fig. # 2-26)
WARNING
HIGH-PRESSURE FLUID HAZARD
TO PREVENT SERIOUS INJURY OR DEATH:
1. Relieve pressure on system before repairing, adjusting or disconnecting.
2. Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
3. Keep all components in good repair.

Fig. # 2-29 Warning Decal Qty 1 Per Machine (Hydraulic Drive Option) P/N 90-44-0173

Fig. # 2-30 Warning Decal Location
Fig. # 2-31 Warning Decal Qty 1 per machine P/N 90-44-0257

Fig. # 2-32 Safety Decal Location

---

**WARNING**

TRANSPORT HAZARD

Can cause serious injury or death.

- Securely attach equipment to vehicle with correct pin and safety chains.
- Use a tow vehicle to move equipment.

(See Fig. # 2-31)
**WARNING**

**ENTANGLEMENT AND OPEN BELT HAZARD**

Can cause serious injury or death.

- DO NOT step on or touch moving conveyor belt.
- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order.

(See Fig. # 2-33)

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**Fig. # 2-33 Warning Decal Qty 2 per Machine P/N 90-44-0296**

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**Fig. # 2-34 Safety Decal Location**
**WARNING**

**OPEN BELT HAZARD**

Can cause serious injury or death.

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

---

Fig. # 2-35 Warning Decal Qty 2 per Machine P/N 90-44-0261

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Fig. # 2-36 Safety Decal Location

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Fig. # 2-37 Safety Decal Location
ENTANGLEMENT HAZARD

Can cause serious injury or death.

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

Fig. # 2-38 Warning Decal Qty 4 Per Machine P/N 90-44-0260

Fig. # 2-39 Safety Decal Location

Fig. # 2-40 Safety Decal Location
**DANGER**

**ELECTROCUTION HAZARD**

1. Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before servicing or repairing electrical components.
2. Keep electrical components in good repair.

Fig. # 2-42 Danger Decal Qty 1 Per Machine (Electric Drive Option) P/N 90-44-0350

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**Fig. # 2-41 Warning Decal Location**
Important, Notice & Informative Decal Locations

**NOTICE**

WHEEL MOVEMENT

Can cause equipment damage.

- Wheels must be free to move when raising or lowering equipment.
- When equipment is positioned, chock all wheels.

Fig. # 2-43 Notice Decal Qty 1 Per Machine P/N 90-44-0269

Fig. # 2-44 Notice Decal Location

Fig. # 2-44 Notice Decal Location

(See Fig. # 2-43)
Transport Safety

1. Read and understand ALL the information in the Operator's Manual regarding procedures and SAFETY when moving or transporting the machine.

2. Check with local authorities regarding conveyor transport on public roads. Obey all applicable laws and regulations.

3. Always travel at a safe speed. Use caution when making corners or meeting traffic. Travel speed should be such that complete control and machine stability is maintained at all times.

4. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.

5. Do not allow riders on the Conveyor or the tractor when transporting.

6. Attach Conveyor to towing vehicle with a pin and retainer. Always attach the safety chain.

7. Lower Conveyor to its lowest position for transporting. Keep lift point at drawbar height.

8. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.

9. Do not exceed 25 m.p.h. (40 km/h). Reduce speed on rough roads and surfaces.

10. Always use hazard warning flashers on tractor when transporting unless prohibited by law.

11. Slow down and signal before turning.

12. Follow correct towing procedure for equipment with or without brakes.
Transport Preparation

Kwik Belt Transfer Conveyors are designed to be easily and conveniently moved from place to place. When transporting, follow this procedure:

1. Review the Transport Hazard Area Schematic before starting.
2. Be sure all bystanders are clear of the machine.
3. On electric motor drive units, unplug the power cord, and secure to prevent dragging.
4. On hydraulic powered units, disconnect hydraulic hoses, remove power source and secure to prevent dragging.
5. On gas engine powered units, place all controls in neutral by disengaging the slide lever, stop engine, wait for all moving parts to stop, remove ignition key and engage slide lever before transporting.

**IMPORTANT**

For gas engine driven units, the slide lever must be engaged before transporting, as the tension of the belts keeps the engine mount secure from moving. (*See Fig. # 3-2*)

6. The machines wheels are rated for highway use, so it can be towed on highways, but it is not recommended that the machine be transported faster than 25 mph (40 km/h). It can also be placed on a transport vehicle or trailer and tied down securely.

7. If the Standard Hitch (A) was removed during operation, then re-install the Standard Hitch (A), Bent Pull Clevis Pin (B), and Hairpin (C).

8. Attach to a tractor or truck using a hitch pin with a retainer and safety chains. (*Refer to “Connect the Conveyor to the Towing Vehicle”*).
9. If equipped with an optional lighting package, connect wiring harness to the towing vehicle and secure across the hitch. Do not allow the harness to hang or drag on the ground.

10. Remove chocks from the wheels.

11. Slowly pull away from the storage facility and stop as soon as the discharge end clears the work area.

12. Stop and lower the Transfer Conveyor into its fully down position. (Refer to “Lowering The Transfer Conveyor”)

14. Never go across slopes of more than 20°. It is better to go straight up or straight down a slope.

15. Make sure the SMV (Slow Moving Vehicle) emblem and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic.

16. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.

17. It is not recommended that the machine be transported faster than 25 mph (40 km/h). (See Fig. # 3-7) This table gives the acceptable transport speed as the ratio of towing vehicle weight to machine weight.

<table>
<thead>
<tr>
<th>Road Speed</th>
<th>Weight of fully equipped or loaded implement(s) relative to weight of towing machine.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 25 mph (40 km/h)</td>
<td>1 to 1, or less</td>
</tr>
<tr>
<td>Up to 10 mph (16 km/h)</td>
<td>2 to 1, or less</td>
</tr>
<tr>
<td>Do not tow if</td>
<td>More than 2 to 1</td>
</tr>
</tbody>
</table>

18. Do not allow riders on the machine or tractor.

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

20. Always use hazard flashers on the towing vehicle when transporting unless prohibited by law.

21. Longer conveyors have a large turning radius. Allow ample room for turning as discharge end may swing dramatically.

**WARNING**

Avoid transporting Transfer Conveyor along slopes of 20° or more, failure to heed may result in serious injury or death.
Connect the Conveyor to the Towing Vehicle

Follow all safety precautions when transporting the Kwik Belt Transfer Conveyor and use a proper towing vehicle. The Transfer Conveyor may be attached to a truck or tractor whenever it is moved. It is road worthy and may be transported by a truck over long distances. Follow this procedure when attaching to or unhooking from a towing unit:

1. Make sure that bystanders, especially small children, are clear of the working area.
2. Be sure that there is sufficient room and clearance to back up to the conveyor.
3. Set the park brake before dismounting.
4. Place the conveyor in the full down position. (Refer to “Raising And Lowering The Machine”)
5. Lift the hopper section to the drawbar height on the towing vehicle, avoid an upending hazard. (See Fig. # 3-8)

**WARNING**

**UPENDING HAZARD**

Can cause serious injury or death.

- Anchor intake end and/or support discharge end to prevent upending.
- Intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.
- Do not raise intake end above tow bar height.
- Empty conveyor and fully lower before moving.

Fig. # 3-8 Warning, Upending Hazard

6. Place and secure hitch pin and safety chains. (See Fig. # 3-9)

**IMPORTANT**

The safety chains should be threaded around the drawbar cage and form a cradle that will prevent the machine from digging into the road surface, should a breakaway occur. (See Fig. # 3-9)

**IMPORTANT**

It is the customers responsibility to provide safety chains to secure the Kwik Belt Transfer Conveyor to the towing vehicle before transporting the machine.

7. Replace the safety chain if one or more links or end fittings are stretched, broken, damaged, or deformed.
8. The safety chains should have a load rating at least as high as the conveyor weight, refer to Specifications.
9. Remove the chocks from the wheels.
10. Move the machine out of its working or storage location.
11. Reverse the above procedures when unhooking.

**IMPORTANT**

Use a type of hitch pin that will not allow conveyor to separate from towing vehicle.
## Operating Safety

1. Read and understand the Operator’s Manual and all safety signs before using.
2. Hydraulic drives: Stop the engine, place all controls in neutral, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging any area of the machine.
3. Electric motor drives: Disconnect and disable electrical supply completely and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
4. Gas engine drives: Place all controls in neutral by disengaging the slide lever, stop the engine, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
5. Clear the area of bystanders, especially children, before starting.
6. Be familiar with the machine hazard area. If anyone enters hazard area, shut down machine immediately. Clear the area before restarting.
7. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
8. **DO NOT** step on or touch moving Transfer Conveyor belt.
9. **DO NOT** allow riders on the Transfer Conveyor or tractor when transporting.
10. **DO NOT** operate machine when any guards are removed.
11. Set park brake on tractor before starting.
12. Before moving or transporting, lower the Transfer Conveyor as much as possible while maintaining sufficient ground clearance. Keep lift point at drawbar height.
13. Anchor intake end and/or support discharge end to prevent upending.
14. Empty Transfer Conveyor and fully lower before moving.
15. Intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the Transfer Conveyor. Follow all safety instructions exactly. It is everyone’s business. By following recommended procedure, a safe working environment is provided for the operator, bystanders and the area around the work site. The design and configuration of this machine includes safety decals and equipment. Hazard controls and accident prevention are dependent upon the personnel operating and maintaining it. Their awareness, concern, prudence and proper training are crucial. Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to operate the machine safely. There are instructions on how to set it, and to provide maximum efficiency. By following the operating instructions, in conjunction with a good maintenance program, your Kwik Belt Transfer Conveyor will provide many years of trouble free service.
### Machine Components (Page 1 of 3)

**Fig. # 4-10 Machine Components (Electric Drive Option)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Item</th>
<th>Description</th>
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<td>1</td>
<td>Main Tube</td>
<td>12</td>
<td>Hopper Section</td>
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<tr>
<td>2</td>
<td>Discharge Spout</td>
<td>13</td>
<td>Discharge Section</td>
</tr>
<tr>
<td>3</td>
<td>Collapsible Intake Hopper</td>
<td>14</td>
<td>Transition Rollers</td>
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<tr>
<td>4</td>
<td>Collapsible Intake Hopper Handle</td>
<td>15</td>
<td>Guided Return Roller</td>
</tr>
<tr>
<td>5</td>
<td>Transfer Conveyor Handle</td>
<td>16</td>
<td>Hopper Pulley</td>
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<tr>
<td>6</td>
<td>Conveyor Belt</td>
<td>17</td>
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<tr>
<td>7</td>
<td>Hitch</td>
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<td>Return Roller</td>
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<td>8</td>
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<td>Electric Control Box (Optional Equipment)</td>
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<td>9</td>
<td>Transfer Jack Handle</td>
<td>20</td>
<td>Electric Drive Belt Guard (Optional Equipment)</td>
</tr>
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<td>Owners Manual Canister</td>
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<td>Adjustable Motor Mount Base</td>
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<tr>
<td>11</td>
<td>Axle Assembly</td>
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Machine Components (Page 2 of 3)

Fig. # 4-11 Machine Components (Hydraulic Drive Option)

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<td>Main Tube</td>
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<td>Axle Assembly</td>
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<tr>
<td>2</td>
<td>Discharge Spout</td>
<td>12</td>
<td>Hopper Section</td>
</tr>
<tr>
<td>3</td>
<td>Collapsible Intake Hopper</td>
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<td>Discharge Section</td>
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<td>5</td>
<td>Transfer Conveyor Handle</td>
<td>15</td>
<td>Guided Return Roller</td>
</tr>
<tr>
<td>6</td>
<td>Conveyor Belt</td>
<td>16</td>
<td>Hopper Pulley</td>
</tr>
<tr>
<td>7</td>
<td>Hitch</td>
<td>17</td>
<td>Drive Pulley</td>
</tr>
<tr>
<td>8</td>
<td>Transfer Jack</td>
<td>18</td>
<td>Return Roller</td>
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<tr>
<td>9</td>
<td>Transfer Jack Handle</td>
<td>19</td>
<td>Hydraulic Flowmeter (Optional Equipment)</td>
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<tr>
<td>10</td>
<td>Owners Manual Canister</td>
<td>20</td>
<td>Hydraulic Motor (Optional Equipment)</td>
</tr>
</tbody>
</table>
The Kwik Belt Transfer Conveyor uses an endless belt that travels in a frame for moving grain or almost any granular product. The machine is portable for easy moving and the intake hopper can fit under trucks or low storage facilities. Normally the discharge from the transfer conveyor is directed into another conveyor or conveying system.

An electric motor, hydraulic motor, or gas engine can supply power to the conveying belt drive located at the discharge end. Material enters the system through an intake on the bottom end and exits through the discharge spout.

The transfer jacks are used to raise or lower the frame. The main components are shown above and on the previous pages in this manual.

* There are some options shown which may not be available on all models.
* The position of components may vary depending on the model.
MACHINE BREAK-IN

Although there are no operational restrictions on the Transfer Conveyor when used for the first time, it is recommended that the following mechanical items be checked:

A. Before starting:
   1. Read the Owner / Operator’s Manual.
   2. During the machines first few minutes of operation, check conveying belt alignment to ensure preset alignment does not vary under loaded conditions.

B. After operating or transporting for 1/2 hour:
   1. Re-torque all the wheel bolts.
   2. Re-torque fasteners and hardware.
   3. Check that all safety decals are installed and legible. Apply new decals if required.
   4. Check the drive belt and roller chain tension and alignment. Tension or align as required.
   5. Check the conveying belt tension and alignment. Tension or align as required.
   6. Check that all guards are installed and working as intended.

C. After operating for 5 hours and 10 hours:
   1. Re-torque all wheel bolts, fasteners and hardware.
   2. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
   3. Check worksite. Clean up working area to prevent slipping or tripping.
   4. Check that drive belts and chains and conveying belts are not frayed or damaged and that they are properly adjusted and aligned.
   5. Be sure Transfer Conveyor wheels are chocked.
   6. Check that discharge and intake areas are free of obstructions.
   7. Then go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

PRE-OPERATION CHECKLIST

Efficient and safe operation of the Kwik Belt Transfer Conveyor requires that each operator reads and understands the operating procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining the good mechanical condition of the Transfer Conveyor that this checklist is followed.

Before operating the Transfer Conveyor and each time thereafter, the following areas should be checked off:

1. Service the machine per the schedule outlined in Section 5 Service and Maintenance.
2. Use only a tractor, electric motor, or gas engine of adequate power to operate the machine.
3. Check that all guards are installed, secured and functioning as intended. Do not operate with missing or damaged shields.
4. Check worksite. Clean up working area to prevent slipping or tripping.
5. Check that drive belts and chains and conveying belts are not frayed or damaged and that they are properly adjusted and aligned.
6. Be sure Transfer Conveyor wheels are chocked.
7. Check that discharge and intake areas are free of obstructions.

IMPORTANT

Anchoring and/or support of Transfer Conveyor during operation is necessary. When the lower half of Transfer Conveyor empties material, the weight balance transfers to the upper end of the machine, which can cause upending.
CONTROLS

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

1. Electric Drive Motor (Optional Equipment)

   **IMPORTANT**

   In some cases, not all Transfer Conveyors are supplied with ON/OFF switches. If your machine was not supplied with a ON/OFF switch, have a licensed electrician to provide power to the machine per the National Electrical Code ANSI/NFPA 70 and local codes. Install an ON, OFF switch for the convenience of the operator.

   ![Electric Motor ON/OFF Switch](image1)

   **Fig. # 4-13 Electric Motor ON/OFF Switch**

   1. Turn the electric motor switch on to start the Transfer Conveyor.
   2. Discharge the desired amount of material from the Transfer Conveyor discharge spout.
   3. Run until the belting is empty.
   4. Turn off motor and lock out power source.
   5. Unplug the power cord, wrap around the equipment and secure to prevent dragging, especially when transporting or placing the conveyor.

2. Hydraulic Drive (Optional Equipment)

   **IMPORTANT**

   Dirt in the hydraulic system can damage the hydraulic motor and flow control and can cause failure to the system.

   2. Connect the hydraulic hoses and ensure the connections are tight.

   ![Hydraulic Flow Control](image2)

   **Fig. # 4-14 Hydraulic Flow Control**

   1. Wipe the hydraulic hose couplers clean before connecting the tractor to the flow control.

   3. Start tractor and idle at low rpm. Engage hydraulic lever in the tractor to the flow control. Increase tractor rpm until desired belt speed is reached. The flow control has a maximum of 15 GPM flow.

   4. Place all tractor controls in neutral.

   5. Start the tractor and run at low idle.

   6. Engage the tractor hydraulic control lever and increase the engine to desired speed.

   **IMPORTANT**

   The correct operation of a hydraulic system is directly linked to the pump’s ability to supply the correct oil flow and pressure. If you cannot obtain the correct belt speed, check with your dealer to ensure the tractor is delivering the correct oil volume and pressure.

   7. Run until the belting is empty.

   8. Reduce tractor engine speed to low idle.

   9. Place hydraulic control lever in neutral.

   10. Shut off engine and remove ignition key.
3. Gas Engine Drive (Optional Equipment)

1. Move engine assembly to its loosest drive belt tension by moving the slide lever to the dis-engaged position.

2. Turn ignition switch on.

3. Move throttle to its 1/4 position for starting.

4. Close choke if engine is cold.

5. Pull sharply on the starting rope until the engine starts.

6. Run until the engine warms and the choke is opened.

7. Move engine assembly to engage drive belt by moving the slide lever to the engaged position.

8. Increase engine speed to full throttle.

9. Start flow of material.

10. Run until conveyor belt is empty.

11. Reduce speed to low idle.

12. Move engine assembly to disengage drive belt by moving the slide lever to the dis-engaged position.

**IMPORTANT**

For gas engine driven units, the slide lever must be engaged before transporting, as the tension of the belts keeps the engine mount secure from moving. (See Fig. # 4-15)

13. Shut off engine

4. Collapsible Intake Hopper

The conveyor is designed with a collapsible hopper cloth to allow it to go under low discharge units. Move the control handle toward the hopper or intake to raise the hopper cloth, and move the handle toward the outlet or spout end to collapse the hopper cloth.
5. **Transfer Jack**

Transfer Jacks are located on the left and right sides of the main tube and are used to raise and lower the conveyor. Turn the handle clockwise to raise and counterclockwise to lower. *(See Fig. # 4-18)*

![Fig. # 4-18 Transfer Jack](image)

**To operate:**

1. Turn the jack handles simultaneously CW to raise and CCW to lower the conveyor.

2. If the jack handles cannot be cranked simultaneously, then crank the handles one at a time a maximum 3 rotations until desired height is achieved.

**IMPORTANT**

Do not continue to crank the jack handles when the conveyor has reached full up position as this can cause damage.

3. If located on uneven ground, the jacks can be used to level the machine. Simply raise and lower the transfer jack until you have obtained the desired position.
When using the Transfer Conveyor, follow this procedure:

1. Clear the area of bystanders, especially small children, before starting.
2. Review the Pre-Operation Checklist (Page 4.5) before starting.
3. Review the Workplace Hazards schematics and use extra care when inside the hazard area. Keep all spectators and bystanders out of this area. Should anyone enter this area, stop the machine immediately.

Fig. # 4-19 Workplace Hazard Area (Gas Engine Drive)

Fig. # 4-20 Workplace Hazard Area (Hydraulic Drive)

Fig. # 4-21 Workplace Hazard Area (Electric Drive)
MACHINE PLACEMENT

Follow this procedure when placing the Transfer Conveyor into its working position:

1. Clear the area of bystanders, especially small children, before starting.
2. Be sure there is enough clearance from obstructions and other equipment to move the machine into its working position.
3. Attach the Transfer Conveyor to the tractor (See page 3.4).
4. Back the machine up to the storage facility while it is in its lowered configuration.
5. Set the park brake on the towing vehicle before dismounting.
6. Use the transfer jacks to raise the machine so it clears the secondary conveyor or conveying system.
7. Slowly back the machine until the discharge is over the intake of the secondary conveyor or conveying system.
8. Use the transfer jacks to slowly lower the discharge end of the machine until the spout is directly above the secondary conveyor or conveying system.
9. Place chocks in the front and rear of each wheel.
10. Unhook the unit from the tractor or towing-vehicle and lower to the ground.
11. Remove the hitch from the machine to prevent interfering with other equipment.
12. It will be necessary to stake or weight the intake end to prevent upending when the machine is emptying.
13. Review the Workplace Safety Diagram for your model prior to starting work. Follow all setup instructions and do not allow any unauthorized people into the working area.
14. Reverse the above procedure when removing the machine from its working position.
OPERATING HINTS

Follow this procedure when placing the Transfer Conveyor into its working position:

- Keep the hopper full for maximum capacity. Most efficient results will be obtained when flow of incoming material is directed to the center of the hopper. (See Fig. # 4-25) (See Fig. # 4-26)
- Always listen for any unusual sounds or noises. If any are heard, stop the machine and determine the source. Correct the problem before resuming work.
- Do not run the machine for long periods of time with no material on the belting. This increases the wear. Try to run only when moving material.
- Stake the hopper or weigh it down to prevent upending.
- The hopper is designed with flashing to seal the junction of the belt with the sides of the hopper. It must be kept in good condition to prevent the material from “leaking” out of the hopper. Replace flashing if “leakage” occurs.
- Belt Speed:
  The best results are obtained when the drive is set to provide a belt speed of 600 - 650 ft./min.

  **Count the number of belt revolutions per minute to determine belt speed:** Use the connector splice as a reference when counting belt revolutions.

  **Find your Belt Length:** Use the specifications section to find your belt length.

**Example:** A model 1815 has a belt length of 34'-8" ft. After running the Transfer Conveyor for 1 Minute, the count is 18 complete revolutions. *(See Formula Below)*

\[
\text{Belt Speed (ft/Min.)} = \frac{\text{Belt Revolutions Per Min.} \times \text{Belt Length (ft)}}{60}
\]

\[
18 \times 34.8 = 626.4
\]

\[
\text{Belt Speed} = 626 \text{ ft/Min.}
\]

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

- Belt Tension:
  There may be a rapid decrease in belt tension during the first few hours of operation until the belt has worn in.
  The correct operating tension is the lowest tension at which the belt will not slip under peak load conditions.

- Operating Angle:
  The transfer jacks can set the tube angle at any position between the lowest position and the highest position when operating. Because the belt does not have roll-back barriers, the product will roll-back if the angle is too steep. Do not position at more than 30°.

**IMPORTANT**

The lower the angle of the Transfer Conveyor, the greater the capacity.

**Loading Area**

To achieve maximum capacity:

- Gradually increase flow of material onto the loading area of the belt until it can no longer support the flow into the tube.
- Direct the flow of material into the input hopper in the direction of the belt travel for the best capacity.

**Do not:**

- Unload material into the transition area.
- Flood feed the hopper.

---

**Fig. # 4-25 Load Material Only Between These Arrows**

**Fig. # 4-26 Do Not Load Material Into Transition Area**
Emergency Shutdown

In an emergency situation:
1. Stop or shut down the power source immediately and lock out all power.
2. Stop the flow of material (if applicable).
3. Ensure the machine components come to a stop before inspecting.
4. Correct the emergency situation before resuming work.

Restarting with a Full Tube

When the conveyor is shut down inadvertently or due to an emergency, the tube may still be filled with grain.

**WARNING**
- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. With the power source locked out, remove as much of the grain as possible from the tube and intake using a shop vacuum or sweep out. Do not use your hands.

**IMPORTANT**
Starting under load may result in damage to the Transfer Conveyor if grain is not removed as much as possible.

2. If guards or covers have been opened or removed, close or replace them before restarting the unit.
3. Electric Drive Models: It may be necessary to tighten the drive belts slightly to handle the heavier than normal loads.
4. Hydraulic Drive Models: Since the start-up torque loads are so much higher than normal when the conveyor belting is full, restart at low speed. Do not let the conveyor belt drive roller spin on the belt if conveying belt does not start moving immediately. This will damage the drive roller and conveying belt.
5. Once the conveyor has been started, you may resume normal operation.

Shutdown

When operation has been completed:
1. Once the conveyor is clear of grain, lock out the power source.
2. Lower the conveyor fully.
3. Clean out any remaining grain from the conveyor with a vacuum or sweep out.
4. Clean the entire work area.
5. Remove anchors, supports, and chocks.

Clean Out

After using your conveyor, follow the clean out steps below to ensure longer belt life and trouble free operation. Failure to clean out the conveyor can cause build up of product on the belt and roller shafts, causing spillage, roller misalignment, and excess wear/damage to the belt.

Failure to lock out power can cause severe injury.

1. Remove any product remaining in the hopper and spout with a vacuum or sweep out.
2. Remove debris from shafts, sheaves, and drive belts (as equipped).
3. Once the conveyor is empty of all product, check for damage on belt and lacing such as notches or cut outs. Any damage on belt may result in product getting under it creating a build-up. If belt replacement and replacing is necessary, refer to the Maintenance Section.

**IMPORTANT**
Ensure the conveyor is free from all product and debris to prevent build-up. Any build-up on belt and shaft becomes a source of spillage and can cause belt misalignment with the possibility of belt edges sustaining damage on the fixed structure. Build-up on the hopper and spout will cause the belt to wear faster due to drag.

4. Once cleaned out, cover intake to prevent moisture from collecting in hopper.
# General Maintenance Safety

1. Review the Operator’s Manual and all safety items before working with, maintaining or operating the Transfer Conveyor.

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

3. Do not attempt to clean, lubricate, clear obstructions or make adjustments to the machine while it is in motion or while the engine is running.

4. Follow good shop practices:
   - Keep service area clean and dry.
   - Be sure electrical outlets and tools are properly grounded.
   - Use adequate light for the job at hand.

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

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

7. **DO NOT** step on or touch moving Transfer Conveyor belt.

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

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

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

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

12. Support the Transfer Conveyor main tube before attempting maintenance on the under carriage assembly. Where possible, the Transfer Conveyor should be in the full down position.

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

14. Always make sure working area is clear of tools, parts, other persons and pets before you start operating the machine.
FLUIDS AND LUBRICANTS

Hydraulic Oil:
Use an ISO grade 36 hydraulic oil for all operating conditions (Hydrex MV36 or comparable).

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.

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

Greasing
Use the Maintenance Chart provided on page 5-3 to keep a record of all scheduled maintenance.

1. Use only a hand-held grease gun for all greasing. An air-powered greasing system can damage the seals on bearings and lead to early failures.
2. Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
3. All roller bearings are sealed and not greasable, (Unless repacked by greasable bearings) only the wheel hubs are greasable. They require minimal lubricant. Recommended greasing is 1 small stroke every 2 weeks. Be careful not to over-grease, as this may push the seal out.
4. Replace and repair broken fittings immediately.
5. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fitting if necessary.

SERVICING INTERVALS

Make sure your Transfer Conveyor is ready to go to the field when you are. Perform the service and maintenance procedures that are recommended in this section to prepare for the next season. Careful maintenance preparation will save time and expense as you enter the busy season.

The periods recommended on page 5-3 are based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication and oil changes.

Schedules may vary depending on equipment options contained in the present unit.

The Transfer Conveyor belt alignment is preset to run true under a condition of no load. It is important to check alignment and make adjustments, if required, during the initial few minutes of operation.
<table>
<thead>
<tr>
<th>Interval</th>
<th>Page #</th>
<th>Maintenance Action</th>
<th># of Pts.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EACH USE</td>
<td>*9</td>
<td>Check Engine Oil Level</td>
<td>1 X</td>
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<tr>
<td></td>
<td>*9</td>
<td>Check Reduction Case Oil Level</td>
<td>1 X</td>
</tr>
<tr>
<td></td>
<td>*10</td>
<td>Check Air Cleaner</td>
<td>1 X</td>
</tr>
<tr>
<td>FIRST 1 HOUR</td>
<td>5-4</td>
<td>Transfer Conveyor Conveyor Belt Tension</td>
<td>1 X X</td>
</tr>
<tr>
<td></td>
<td>5-4</td>
<td>Transfer Conveyor Conveyor Belt Alignment</td>
<td>3 X X</td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>Re-torque Wheel Lug Bolts</td>
<td>8/12 X X</td>
</tr>
<tr>
<td>EVERY 10 HOURS OR EACH DAY</td>
<td>5-4</td>
<td>Transfer Conveyor Conveyor Belt Tension</td>
<td>1 X X</td>
</tr>
<tr>
<td></td>
<td>5-4</td>
<td>Transfer Conveyor Conveyor Belt Alignment</td>
<td>3 X X</td>
</tr>
<tr>
<td></td>
<td>5-6</td>
<td>Visually Inspect The Equipment</td>
<td>X</td>
</tr>
<tr>
<td>20 HOURS</td>
<td>*9</td>
<td>Change Engine Oil</td>
<td>1 X</td>
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<tr>
<td></td>
<td>*10</td>
<td>Change Reduction Case Oil</td>
<td>1 X</td>
</tr>
<tr>
<td>40 HOURS</td>
<td>5-7</td>
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<td>8/12 X X</td>
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<td>50 HOURS</td>
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<td>Clean Air Cleaner</td>
<td>1 X</td>
</tr>
<tr>
<td>100 HOURS</td>
<td>*9</td>
<td>Change Engine Oil</td>
<td>1 X</td>
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<td>Change Reduction Case Oil</td>
<td>1 X</td>
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<tr>
<td></td>
<td>*10</td>
<td>Clean Air Cleaner</td>
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<tr>
<td></td>
<td>*12</td>
<td>Clean Sediment Cup</td>
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<td></td>
<td>*13</td>
<td>Clean Spark Arrester</td>
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<td>**</td>
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<td>MONTHLY</td>
<td>5-7</td>
<td>Grease Wheel Bearings</td>
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<td>5-8</td>
<td>Check Roller Lagging</td>
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<td>5-9</td>
<td>Inspect Hopper Flashing</td>
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<td></td>
<td>5-9</td>
<td>Inspect Belt Lacing</td>
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<tr>
<td></td>
<td>5-9</td>
<td>Inspect Hydraulic Hoses And Fittings</td>
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<tr>
<td>Yearly</td>
<td>5-10</td>
<td>Repack Wheel Bearings</td>
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</tr>
<tr>
<td></td>
<td>*10</td>
<td>Replace Air Cleaner</td>
<td>1 X</td>
</tr>
<tr>
<td></td>
<td>*12</td>
<td>Replace Spark Plug</td>
<td>2 X</td>
</tr>
<tr>
<td></td>
<td>**</td>
<td>Idle Speed</td>
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<tr>
<td></td>
<td>**</td>
<td>Valve Clearance</td>
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<tr>
<td>As Required</td>
<td>5-10</td>
<td>Clean and Wash the Equipment</td>
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<tr>
<td></td>
<td>5-11</td>
<td>Replace the Hopper Flashing</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>5-12</td>
<td>Replacing the Conveyor Belt</td>
<td>1 X</td>
</tr>
<tr>
<td></td>
<td>5-13&amp;5-14</td>
<td>Replace the Belt Lacing</td>
<td>1 X</td>
</tr>
<tr>
<td></td>
<td>5-15</td>
<td>Tension And Alignment of the Drive Belts</td>
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</tr>
<tr>
<td></td>
<td>5-16</td>
<td>Replacing the Drive Belts</td>
<td>2 X</td>
</tr>
</tbody>
</table>

* Consult your Honda Engine Owner's Manual
** Refer to the Honda Engine Shop Manual
First 1 Hour

Transfer Conveyor Conveyor Belt Tension

Adjusting your conveyor belt for proper tension helps to ensure trouble-free operation and long belt life. A conveyor belt only needs to be tight enough to eliminate slipping on the drive roller. If the belt is too loose, it will slip on the drive roller making smoke or a noticeable sound, with the belt slowing down. To correct belt slippage and set proper tension on the belt, follow the steps below.

**IMPORTANT**

Failure to stop using the machine with a slipping belt will damage it and/or the drive roller lagging. In extreme cases, sections of burnt belt will have to be replaced. This type of damage is not covered by warranty.

1. Clear area of bystanders.

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

2. Loosen bearing bolts and jam nut at hopper pulley. (See Fig. # 5-27)

3. Tighten adjustment bolts equally in small increments.

4. Tighten bearing bolts and jam nuts.

5. Check belt tension by running conveyor for one (1) minute. If belt is not slipping, then proceed to next step, otherwise repeat previous steps.

6. If belt tracks to either side abruptly, then the belt is too loose.

7. If belt is not slipping, but is running to one side gradually, the tensioned roller needs to be realigned. See “Transfer Conveyor Conveyor Belt Alignment” section to correct this problem.

8. Ensure that all covers and guards are securely in place before operation.

First 1 Hour

Transfer Conveyor Conveyor Belt Alignment

The Transfer Conveyor Conveyor Belt should be checked during the first hour of operation, then weekly to ensure it is properly aligned. If the belt is tracking to one side, use the following steps to correct the problem.

**IMPORTANT**

Failure to stop using the machine with a misaligned belt will damage it. In extreme cases, sections of the belt will have to be replaced. This type of damage is not covered by warranty.

1. Clear area of bystanders.

2. Ensure the conveyor is completely empty of all product.

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

3. Loosen bearing bolts and jam nuts.
4. Start checking the alignment at the hopper end, transition rollers, then followed by the discharge end. (See Fig. # 5-28)(See Fig. # 5-29)

**IMPORTANT**

The transition roller is slotted on one side, therefore the transition roller is only adjustable on one side. Start the adjustment with the bearing centered in the slot.

5. If belt is not centered, adjust the bearing on the side the belt is moving toward. The bearing should be moved in the direction which would tighten the belt. (See Fig. # 5-30).

6. Start the conveyor and run empty for one (1) minute.

7. Stop conveyor, remove ignition key or lockout power source.

8. If belt is centered continue to the next step, if not repeat alignment process.

9. Tighten bearing bolts and jam nuts.

10. Replace any covers or guards that may have been removed.
First 1 Hour

Re-torque Wheel Lug Bolts

1. Check after the first 1 hour of use. If lug nut torque is not at the specified torque, re-torque all lug nuts. (See Fig. # 5-31) (See Fig. # 5-32) (See Fig. # 5-33)

EVERY 10 HOURS OR EACH DAY

Visually Inspect The Equipment

Check the following during a visual inspection:

1. Ensure all guards are in place and in good working order.
2. Examine the belt conveyor for damage or unusual wear.
3. Check tightness of bolts/nuts, fasteners, and hardware (re-torque if necessary).
4. Be sure all safety decals are in place and are legible.
5. Check that the discharge and intake area are free of obstructions.
6. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove any entangled material.
7. **When equipped:** Inspect hydraulic hoses and fittings for leaks and wear. Fix or replace where necessary.
8. Examine tires for gashes, uneven wear, or loss of air pressure. Maintain pressure according to tire sidewall recommendations.
9. Check all operating, lifting, and transport components. Replace damaged or worn parts before using the conveyor.

<table>
<thead>
<tr>
<th>Hub Design</th>
<th>Torque</th>
<th>Number of Lug Nuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 BOLT</td>
<td>70 ft-lbs (95 N-m)</td>
<td>8</td>
</tr>
<tr>
<td>6 BOLT</td>
<td>70 ft-lbs (95 N-m)</td>
<td>12</td>
</tr>
</tbody>
</table>
**Every 40 Hours**

**Re-torque Wheel Lug Bolts**

1. Check at the beginning of the season, and at 10 hour intervals (daily). If bolt torque is stable, check at 40 hour intervals. If lug nut torque is not at the specified torque, re-torque all lug nuts.

**Hub Design**

<table>
<thead>
<tr>
<th>Hub Design</th>
<th>Torque</th>
<th>Number of Lug Nuts</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
<td>6 BOLT</td>
<td>70 ft-lbs (95 N·m)</td>
<td>12</td>
</tr>
</tbody>
</table>

**Every Month**

**Grease Wheel Bearings**

Grease the (2) points on the wheel hubs every month. Use Multi-Purpose Grease 251H EP or equivalent. (Pump until the grease becomes visible)
Every Month

Check Roller Lagging

Visually inspect roller lagging on the Hopper Pulley and Drive Pulley to see if it is showing signs of wear. (See Fig. # 5-38) (See Fig. # 5-39)

**IMPORTANT**

Operating the Transfer Conveyor with a damaged roller will result in a damaged conveyor belt.

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

---

**Fig. # 5-38 Check Roller Lagging At Hopper Pulley**

**Fig. # 5-39 Check Roller Lagging At Discharge End Drive Pulley**
Every Month

Inspect Hopper Flashing

Worn flashing will cause hopper leakage. Check the condition of the rubber hopper flashing. (See Fig. # 5-40) Be sure it still seals the hopper to prevent leaking. If any product comes out of the hopper around the flashing, See “Replacing The Hopper Flashing”

Every Month

Inspect Belt Lacing

Inspect the condition of the belt lacing, if any clips are worn through, replace all lacing.

Every Month

Inspect Hydraulic Hoses And Fittings

It is important to regularly check the hydraulic system for leaks. Follow this procedure when checking for leaks.

WARNING

Hydraulic Hazard

Hydraulic oil leaking under pressure can penetrate the skin, causing death or serious injury, or infection. Stop engine, remove key and relieve the pressure before connecting or disconnecting fluid lines.

1. Pressurize the system.
2. Using a piece of cardboard or plywood, run it along the length of the hose and around all fittings.
3. Replace the hose or tighten/replace the fitting if a leak is found.
4. Replace any hose that is badly cut, nicked, abraded, or is separating from the crimped end of the fitting.
5. Secure hoses to the machine.
Yearly

Repack Wheel Bearings

Follow these steps to repack the wheel bearings. Refer to (See Fig. # 5-42)

1. Block wheels and ensure unit is stable.
2. Remove the wheel bolts ① and the wheels ②.
3. Remove Dust Cap ③, Cotter Pin ④, Castle Nut ⑤ and Washer ⑥.
4. Slide Hub ⑦ off the Spindle ⑧ along with the Outer Bearing ⑨, and Inner Bearing ⑩.
5. Only remove Seal ⑪ if damaged.

6. Clean wheel and hub mounting surfaces to ensure there is no rust or debris.
7. Clean the wheel bearings and pack with grease. Use SAE multi-purpose high-temperature grease with extreme pressure (EP) performance. SAE multi-purpose lithium-based grease is also acceptable.
8. Reverse disassembly procedure.
8. Tighten the wheel bolts (diagonal pattern) (See Fig. # 5-44) with a torque wrench to (70 ft-lbs) (See Fig. # 5-43) of torque. Inspect to make sure the wheel is sitting flush with the hub.

As Required

Clean and Wash the Equipment

⚠️ WARNING

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. Clean out excess material from all areas of the Transfer Conveyor.
2. Make sure water can drain from the conveyor tube and intake hopper, then wash the tube with a water hose or pressure washer until all dirt, mud, debris, or residue is gone.
3. Provide sufficient time for the water to drain from the Transfer Conveyor.
As Required

Replace The Hopper Flashing
If any product leaks out of the hopper around the flashing, replace the worn hopper flashing.

**WARNING**
- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

**WARNING**
The Collapsible Intake Hopper is under extreme torsion. Removing all elevator bolts securing the Collapsible Intake Hopper to the Hopper Section of the frame will result in the Collapsible Intake Hopper suddenly swinging upward with force. Secure the front of the Collapsible Intake Hopper to the hitch cross member before servicing, repairing or adjusting. Failure to comply could result in serious injury or death.

1. Secure the front of the Collapsible Intake Hopper to the hitch cross member before servicing, repairing or adjusting.

2. Loosen and remove the 1/4-20 Nuts. (See Fig. # 5-46)
3. Remove the 1/4-20 Elevator Bolts. (See Fig. # 5-46)
4. Remove and replace the worn flashing.
5. Re-install the elevator bolts and nuts.
6. Run the Transfer Conveyor again. Repeat until no grain is lost. If the flashing is stuck to the belt, manually peel the flashing up and off the hopper. Replace it if necessary.
As Required

Replacing the Conveyor Belt

The belt provided on your Transfer Conveyor should last for several years under normal working conditions, providing it is maintained properly. If a new belt is to be installed, be sure to loop the belt through the loader properly. Looping the Conveyor belt improperly will cause belt tracking, belt tensioning, and belt lacing problems. The recommended procedure to replace a belt is:

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. Rotate the conveyor belt until the lacing is by the hopper or is easily accessible. Most likely position is the lowest position below the Main Tube.
2. Loosen bearing bolts and jam nut at hopper pulley. (See Fig. # 5-27)

3. Loosen adjustment bolts equally, and move hopper pulley backwards to its loosest position.
4. Loosen the conveyor belt by pulling all slack to the seam area and remove the old lacing pin. If required, use a ratchet strap clamped to both ends of belt to cinch belting ends together. (See Fig. # 5-48)

5. Attach one end of the replacement belt to the belt end being removed, closest to the hopper end of the machine.
6. Pull the old belt out and the new belt will be threaded into place.
7. Disconnect the old belt.
8. Reattach conveyor belt ends together. If required, use a ratchet strap clamped to both ends of belt to cinch belting ends together.
9. Install the lacing pin and crimp the retainer clips onto each end of the lacing pin. (see “Replacing The Belt Lacing”)
10. Remove the ratchet strap and tighten the conveyor belt (see “Tension the Conveyor Belt”).
11. Check and set the belt alignment (see “Align the Conveyor Belt”).
12. Engage the conveyor drive. Allow it to run for 30 seconds, then shut down the conveyor and inspect the lacing.
As Required

Replacing the Belt Lacing

The most common method of joining belt ends is the metal fastener such as the “Clipper” type wire lace or the “Alligator” type steel hinge, as well as others. Fastener manufacturer’s catalogs should be consulted for proper size and method of application. Refer to the instructions that came with your type of belt lacing, or consult your Kwik Belt dealer.

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. Rotate the conveyor belt until the lacing is by the hopper or is easily accessible. Most likely position is the lowest position below the Main Tube under the Wind Guards.

2. Loosen bearing bolts and jam nut at hopper pulley. (See Fig. # 5-27)

3. Loosen adjustment bolts equally, and move hopper pulley backwards to it’s loosest position.

4. Loosen the conveyor belt by pulling all slack to the seam area and remove the old lacing pin. If required, use a ratchet strap clamped to both ends of belt to cinch belting ends together. (See Fig. # 5-48)

5. Using a square and sharp knife, cut the lacing off right behind the lacing clips. The cut belt MUST have a square end.

**IMPORTANT**

If the belt is not cut off truly square, improper belt tracking will occur and serious belt damage can result. Always use a large T-square or equivalent method to make sure that belt ends are cut square at the lacing ends.

A. To properly square the belt ends, we recommend the center line method. To properly establish the belt center line, start near the belt end as shown in (See Fig. # 5-51)

B. Measure the belt width at six points approximately 10” apart. Divide each measurement in two and mark these center points as shown. Using these six “center points”, draw the resultant “average” center line. (See Fig. # 5-51)

C. Using a carpenter square or “tee” square, draw a “cut line” across the width of the belt near the belt end (See Fig. # 5-52). It is also a good idea to mark several right angle reference lines across the belt surface for use as guidelines later on.

D. Using the “cut line” as the guide, cut off the end of the belt with a sharp razor knife. Make sure that the cut is clean and vertical. This operation should then be repeated on the other end of the belt.
4. If you are installing a chevron top belt be sure to remove approximately 1.0" of the raised belt chevrons on both ends of the belt. This ensures that the lacing is centered and fully seated on the belt. Belts can be skived with a Flexco® brand Rough Top Belt Skiver.

5. Use a lacing tool to install new lacing clips. Lacing clips are one clip shorter than the belt width. For example: The lacing for a 18" wide belt is 17 clips. Center the lacing on the belt and install the lacing as per instructions on the lacing tool.

6. Notch the conveyor belt as necessary in order to keep belt from catching conveyor framework. Notch only the trailing end of the conveyor belt. (See Fig. # 5-54)

8. Remove the ratchet strap and tighten the conveyor belt (see “Transfer Conveyor Conveyor Belt Tension”).

9. Check and set the belt tension and alignment (see “Transfer Conveyor Conveyor Belt Alignment”).

10. Engage the Transfer Conveyor drive. Allow the conveyor to run for 30 seconds, then shut down the conveyor and inspect the lacing.
As Required

Tension and Alignment of the Drive Belts

Power to the conveyor belt is transmitted through a V belt primary drive. The drive system must be maintained at the proper belt tension and pulley alignment to obtain the desired performance and life. When maintaining the primary belt drive system, follow this procedure:

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

**Tensioning the Drive Belt**

1. Remove the guard.

2. Push on the center of the belt span with a force of approximately 5 lb. (See Fig. # 5-57)

3. The belts will deflect approximately 1” (25 mm) when properly tensioned. (See Fig. # 5-57)

**IMPORTANT**

The drive belt should be just tight enough to not slip on the drive pulley when operating. If the belt is too loose, it will slip, possibly causing a squeaking sound and slowing the belt down. If the belt is too tight, it will cause excess wear.

4. Move the motor or engine base to set drive belt tension.

5. Tighten Jam Nuts when the proper tension is set.

6. Close and secure guards.
As Required

Tension and Alignment of the Drive Belts Contd...

Alignment of the Drive Belt

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. Lay a straightedge across the pulley faces to check the alignment. (See Fig. # 5-59)

![Steel Straightedge](image)

**Fig. # 5-59 Belt Alignment**

2. Use the tapered lock hub in the center of the pulley to adjust the position of a pulley if required
3. Tighten hub bolts to secure pulley on shaft.
4. Check belt tension.
5. Close and secure guards.

As Required

Replace the Drive Belts

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. Move motor base to its loosest position.

![CCW To Loosen Drive Belt Tension](image)  ![CW To Tighten Drive Belt Tension](image)

**Fig. # 5-60 Adjusting Drive Belt Tension**

2. Remove old belts and replace with new ones.
3. Move motor base to set the belt tension.
4. Check pulley alignment. Adjust if required.
5. Close and secure guards.
STORAGE

Preparing For Storage

After the season’s use or when the Transfer Conveyor will not be used for a period of time, completely inspect all major systems of the Transfer Conveyor.

Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

Follow these procedures before storing:

**WARNING**

- Turn machine OFF, shut down and lock out power source, unplug power cord and wait for all moving parts to stop before inspecting, servicing or repairing machine.
- Keep body, hair, and clothing away from moving conveyor belt and rollers.
- Do not operate with any guards removed or modified. Keep guards in good working order. Failure to comply could result in death or serious injury.

1. Remove all left over material from the machine.
2. Thoroughly wash the unit to remove all dirt, mud and debris.
3. Inspect all rotating parts for entanglements. Remove anything caught in the mechanisms.
4. Check the condition of the components in the hydraulic system. Repair, replace or adjust as required.
5. Check the condition of the Transfer Conveyor Belt, replace any damaged areas by splicing a new section.
6. Lubricate all fittings and fill grease cavities.
7. Touch up all paint nicks and scratches to prevent rusting.
8. Store the Transfer Conveyor inside for protection from the weather. If the Transfer Conveyor must be stored outside, cover with a waterproof tarpaulin and tie down securely, place boards under the wheels and parking stands to prevent sinking into the soil.
# 6 - TROUBLESHOOTING

## SYMPTOM(S)

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belt slipping</td>
<td>Conveyor belt is loose.</td>
<td>Tighten and align belt.</td>
</tr>
<tr>
<td></td>
<td>Drive roller lagging worn or damaged.</td>
<td>Replace drive roller lagging.</td>
</tr>
<tr>
<td></td>
<td>Drive belt loose.</td>
<td>Tighten and align. See Belt Tension and Belt Alignment in Maintenance.</td>
</tr>
<tr>
<td></td>
<td>Belt frozen to tube from operating in high humidity and cold temperatures.</td>
<td>Remove conveyor from area of high humidity and warm belt to de-ice.</td>
</tr>
<tr>
<td>Excessive belt edge fraying</td>
<td>Belt not in alignment.</td>
<td>Align and tension belt.</td>
</tr>
<tr>
<td>Belt loose</td>
<td>Belt stretches over time… also can be caused by oily grain products.</td>
<td>Re-tension belt If tightener is fully engaged, you may need to shorten belt.</td>
</tr>
<tr>
<td>Low conveying capacity</td>
<td>Conveyor angle is too high.</td>
<td>Re-position with lower tube angle, see Operation.</td>
</tr>
<tr>
<td></td>
<td>Incorrect belt speed.</td>
<td>Verify and adjust belt speed to appropriate speed, see Belt Speed in Operation.</td>
</tr>
<tr>
<td></td>
<td>Conveyor belt slipping.</td>
<td>Tighten Transfer Conveyor belt, see Belt Tension in Maintenance.</td>
</tr>
<tr>
<td>Low capacity for some grains.</td>
<td>Smaller and smoother grains will slide at shallower angles.</td>
<td>Reduce conveyor height, see Conveyor Operating Angles in Operation.</td>
</tr>
<tr>
<td>Excessive belt edge fraying.</td>
<td>Belt not aligned.</td>
<td>Align belt, see Belt Alignment in Maintenance.</td>
</tr>
<tr>
<td>Conveyor belt loose.</td>
<td>Belt stretches over time.</td>
<td>Re-tension belt, see Belt Tension in Maintenance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If belt is fully tensioned, you may need to shorten belt and re-lace, see Belt Relacing in Maintenance.</td>
</tr>
<tr>
<td>Grain leaking from collapsible Intake hopper.</td>
<td>Belt not aligned (centered).</td>
<td>Align belt, see Belt Alignment in Maintenance.</td>
</tr>
<tr>
<td></td>
<td>Flashing installed incorrectly or worn.</td>
<td>Inspect flashing for wear and replace if required.</td>
</tr>
<tr>
<td></td>
<td>Hopper cloth worn or damaged.</td>
<td>Replace damaged hopper cloth.</td>
</tr>
<tr>
<td>Hopper cloth collapsing under grain.</td>
<td>Misaligned or broken spring</td>
<td>Check spring installation and repair as required.</td>
</tr>
<tr>
<td></td>
<td>Pivot shafts improperly installed.</td>
<td>On some machines, switching pivot shafts left to right will increase hopper tension.</td>
</tr>
<tr>
<td>Problem</td>
<td>Possible Cause</td>
<td>Solution</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Grain leaking from discharge end between belt and tube.</td>
<td>Belt not aligned (centered).</td>
<td>Align belt, see Belt Alignment in Maintenance.</td>
</tr>
<tr>
<td>Grain leaking from conveyor discharge between hood and belt.</td>
<td>Belt speed is too fast, hood plugging.</td>
<td>Decrease belt speed, see Belt Speed in Operation.</td>
</tr>
<tr>
<td>The conveyor will not raise or lower.</td>
<td>The conveyor is already at it’s maximum or minimum height.</td>
<td>If at maximum height, lower the conveyor.</td>
</tr>
<tr>
<td></td>
<td>The bottom or top of the conveyor is obstructed.</td>
<td>Clear the obstruction.</td>
</tr>
<tr>
<td>Drive making noise.</td>
<td><strong>Electric Drive:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Slipping drive belt.</td>
<td>Tighten belts, see Drive Belt Tension in Maintenance.</td>
</tr>
<tr>
<td></td>
<td>Hot shaft, pulley or bearing.</td>
<td>Overheated components indicate a failed bearing that must be repaired.</td>
</tr>
<tr>
<td></td>
<td>Broken drive roller.</td>
<td>Replace damaged component.</td>
</tr>
</tbody>
</table>
**7 - SPECIFICATIONS**

**Kwik Belt Specifications:**

**Standard Features**

18 Series

- 10" x 12 Ga tube w/ 18" 2ply chevron belt (10,000 Bu/hr)

22 Series

- 12" x 12 Ga tube w/ 22" 2ply chevron belt (14,000 Bu/hr)

**Drive Options:**

- Electric
- Hydraulic
- Gas

---

**Kwik Belt Dimensional Data**

**Fig. # 7-61 Kwik Belt Dimensional Data**

<table>
<thead>
<tr>
<th>Model</th>
<th>Low Position</th>
<th>High Position</th>
<th>Width</th>
<th>Belt Length</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A B C</td>
<td>A B C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1815</td>
<td>2'-4&quot; 4'-2&quot; 7'-2&quot;</td>
<td>4'-8&quot; 6'-6&quot; 6'-9&quot;</td>
<td>3'-7&quot;</td>
<td>34'-8&quot;</td>
<td>1025 lbs</td>
</tr>
<tr>
<td>2215</td>
<td>2'-4&quot; 4'-4&quot; 7'-2&quot;</td>
<td>4'-8&quot; 6'-8&quot; 6'-9&quot;</td>
<td>3'-7&quot;</td>
<td>34'-8&quot;</td>
<td>1140 lbs</td>
</tr>
</tbody>
</table>

**Fig. # 7-62 Kwik Belt Dimensional Data Table**

**SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE**
Torque – Hydraulic Tubes and Fittings

Standard torque data for hydraulic tubes and fittings

<table>
<thead>
<tr>
<th>Size</th>
<th>Tubing OD</th>
<th>Thread Size</th>
<th>ft-lbs</th>
<th>Nm</th>
<th>ft-lbs</th>
<th>Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inches</td>
<td>mm</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>4</td>
<td>1/4</td>
<td>6.4</td>
<td>7/16-20</td>
<td>9</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>5</td>
<td>5/16</td>
<td>7.9</td>
<td>1/2-20</td>
<td>12</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>6</td>
<td>3/8</td>
<td>9.5</td>
<td>9/16-18</td>
<td>21</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td>8</td>
<td>1/2</td>
<td>12.7</td>
<td>3/4-18</td>
<td>35</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>10</td>
<td>5/8</td>
<td>15.9</td>
<td>7/8-14</td>
<td>53</td>
<td>58</td>
<td>72</td>
</tr>
<tr>
<td>12</td>
<td>3/4</td>
<td>19.1</td>
<td>1-1/6-12</td>
<td>77</td>
<td>82</td>
<td>104</td>
</tr>
<tr>
<td>14</td>
<td>7/8</td>
<td>22.2</td>
<td>1-3/16-12</td>
<td>90</td>
<td>100</td>
<td>122</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>25.4</td>
<td>1-5/16-12</td>
<td>110</td>
<td>120</td>
<td>149</td>
</tr>
<tr>
<td>20</td>
<td>1-1/4</td>
<td>31.8</td>
<td>1-5/8-12</td>
<td>140</td>
<td>150</td>
<td>190</td>
</tr>
<tr>
<td>24</td>
<td>1-1/2</td>
<td>38.1</td>
<td>1-7/8-12</td>
<td>160</td>
<td>175</td>
<td>217</td>
</tr>
<tr>
<td>32</td>
<td>2</td>
<td>50.8</td>
<td>2-1/2-12</td>
<td>225</td>
<td>240</td>
<td>305</td>
</tr>
</tbody>
</table>

The above torque figures are recommended for plain, cadmium or zinc plated fittings, dry or wet installations and swivel nuts either swaged or brazed. These torques are not recommended for tubes 12.7 mm (0.5 in) OD and thicker with wall thickness of 0.889 mm (0.035 in) or less. The torque is specified for 0.889 mm (0.035 in) wall tubes on each application individually.
Torque – Fasteners

Society of Automotive Engineers (SAE) fastener torque

Use these torques, unless special torques are specified. Values are for Unified Coarse (UNC) and Unified Fine (UNF) thread fasteners, plated or unplated, as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, molydisulphide or other extreme pressure lubricant is used.

**NOTE:** Bolt head identification marks as per grade. Manufacturing marks will vary.
**NOTE:** Thick nuts must be used with Grade 8 bolts.

| SAE Grade No. | Grade 2 | | Grade 5 | | Grade 8 (See Note below.) |
|---------------|---------| |---------| |-----------|
| **Bolt Head Identification (See Note below.)** | | | | |
| | ft-lbs | Nm | ft-lbs | Nm | ft-lbs | Nm |
| 1/4 | 5 | 6 | 7 | 8 | 9 | 11 | 12 | 15 | 12 | 15 | 16 | 20 |
| 5/16 | 10 | 12 | 14 | 16 | 17 | 20.5 | 23 | 28 | 24 | 29 | 33 | 39 |
| 3/8 | 20 | 23 | 27 | 31 | 35 | 42 | 48 | 57 | 45 | 54 | 61 | 73 |
| 7/16 | 30 | 35 | 41 | 47 | 54 | 64 | 73 | 87 | 70 | 84 | 95 | 114 |
| 1/2 | 45 | 52 | 61 | 70 | 80 | 96 | 109 | 130 | 110 | 132 | 149 | 179 |
| 9/16 | 65 | 75 | 88 | 102 | 110 | 132 | 149 | 179 | 160 | 192 | 217 | 260 |
| 5/8 | 95 | 105 | 129 | 142 | 150 | 180 | 203 | 244 | 220 | 264 | 298 | 358 |
| 3/4 | 150 | 185 | 203 | 251 | 270 | 324 | 366 | 439 | 380 | 456 | 515 | 618 |
| 7/8 | 160 | 200 | 217 | 271 | 400 | 480 | 542 | 651 | 600 | 720 | 814 | 976 |
| 1 | 250 | 300 | 339 | 406 | 580 | 696 | 787 | 944 | 900 | 1080 | 1220 | 1464 |
| 1-1/8 | 800 | 880 | 1085 | 1193 | 1280 | 1440 | 1736 | 1953 |
| 1-1/4 | 1120 | 1240 | 1519 | 1681 | 1820 | 2000 | 2468 | 2712 |
| 1-3/8 | 1460 | 1680 | 1980 | 2278 | 2380 | 2720 | 3227 | 3688 |
| 1-1/2 | 1940 | 2200 | 2631 | 2983 | 3160 | 3560 | 4285 | 4827 |
### Metric International Standards Organization (ISO) Fastener Torque

Use these torques, unless special torques are specified. Values are for coarse thread fasteners, plated or unplated, as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, molydisulphide or other extreme pressure lubricant is used.

**NOTE:** Bolt head identification marks as per grade. Manufacturing marks will vary.

<table>
<thead>
<tr>
<th>ISO Class No.</th>
<th>8.8</th>
<th>10.9</th>
<th>12.9</th>
</tr>
</thead>
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<tr>
<td><strong>Bolt Head Identification (See Note below.)</strong></td>
<td><img src="image" alt="8.8" /></td>
<td><img src="image" alt="10.9" /></td>
<td><img src="image" alt="12.9" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bolt Size</th>
<th>ft-lbs Min.</th>
<th>ft-lbs Max.</th>
<th>Nm Min.</th>
<th>Nm Max.</th>
<th>ft-lbs Min.</th>
<th>ft-lbs Max.</th>
<th>Nm Min.</th>
<th>Nm Max.</th>
<th>ft-lbs Min.</th>
<th>ft-lbs Max.</th>
<th>Nm Min.</th>
<th>Nm Max.</th>
</tr>
</thead>
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<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
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<td>M5</td>
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<td>6</td>
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<td>M6</td>
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<td>11</td>
<td>13</td>
<td>15</td>
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<td>M8</td>
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<td>M16</td>
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<td>271</td>
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<td>M24</td>
<td>500</td>
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Because of the low ductility of these fasteners, the torque range is to be determined individually for each application. As a general rule, the torque ranges specified for Grade 10.9 fasteners can be used satisfactorily on 12.9 fasteners.
Norwood follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE), and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the equipment 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 this document has been read. Review this information annually, before the season start-up.

Make periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment.

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

**SIGN - OFF FORM**

<table>
<thead>
<tr>
<th>DATE</th>
<th>EMPLOYEES SIGNATURE</th>
<th>EMPLOYERS SIGNATURE</th>
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</table>
Warranty

Warranty Registration

Customer’s Name __________________________________________

Dealer’s Name __________________________________________

Address __________________________________________

Address __________________________________________

City __________________________ State ______ Area Code ______

City __________________________ State ______ Area Code ______

Phone Number __________________________________________

Phone Number __________________________________________

Model __________________________________________

Serial Number __________________________________________

Check One Below:

Commercial Use _____ Farm Use _____

Dealer Inspection Report

_____ Wheel Nuts Tight

_____ Tire Pressure

_____ Fasteners Tight

_____ All Decals Installed

_____ Signal Lights Work Properly

_____ Safety Chain Installed

_____ Review Operating & Safety Instructions

_____ Operator Manual Supplied

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

________________________

Date __________________________ Dealer’s Signature

I have received the above equipment and Operator’s Manual and I have been thoroughly instructed on its care, adjustments, safe operation and applicable warranty policy.

________________________

Date __________________________ Owner’s Signature
Warranty

Limited Warranty Policy

Norwood Sales Inc. warrants to the buyer that the new machinery is free from defects in material and workmanship.

This warrant is only effective on new machinery, which has not been altered, changed or repaired since its delivery to the buyer.

Norwood Sales Inc. shall only be liable for defects in materials or workmanship and specifically excludes liability for repairs arising as a result of normal wear and tear of the new machinery and without limiting the generality of the foregoing, excludes application or installation of parts not completed in accordance with Norwood Sales Inc. operator’s manual, specifications, or printed instructions.

Written notice shall be given by registered mail, to Norwood Sales Inc. within seven (7) days after the defect shall have become apparent or the repairs shall have become necessary, addressed as follows: Norwood Sales Inc., 11202 38th Street South, Horace, ND 58047.

A Warranty Registration Form and Dealer Inspection Report must be completed at the time of delivery and returned to Norwood Sales Inc., 11202 38th Street South, Horace, ND 58047 within thirty (30) days.

Warranty Period

<table>
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<th>Period</th>
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<tr>
<td>Private Farm Use</td>
<td>One (1) year from date of purchase.</td>
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<tr>
<td>Commercial, Custom, or Rental Use</td>
<td>Ninety (90) days from date of purchase.</td>
</tr>
<tr>
<td>Replacement Parts</td>
<td>Ninety (90) days from date of replacement</td>
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</tbody>
</table>

If these conditions are fulfilled, Norwood Sales Inc. at its option will either repair or replace any defect. The buyer shall be responsible for all expenses incurred as a result of repairs, labor, parts, transportation or any other work, unless Norwood Sales Inc. authorizes such expenses in advance.

The warranty shall not extend to any repairs, changes, alterations, or replacements made to the new equipment other than by Norwood Sales Inc. or its authorized dealers.

This warranty extends only to the original owner of the new equipment.

This warranty is limited to the terms stated herein and is in lieu of any other warranties whether expressed or implied, and without limiting the generality of the foregoing, excluded all warranties, expressed or implied or conditions whether statutory or otherwise as to quality and fitness for any purpose of the new equipment. Norwood Sales Inc. disclaims all liability for incidental or consequential damages.

This machine is subject to design changes and Norwood Sales Inc. shall not be required to retro-fit or exchange items on previously sold units except at its own option.
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