



**MATERIAL HANDLING SOLUTIONS THAT WORK**

Tel: (905) 624-6499 • Fax: (905) 624-0228 • [www.weconsystems.com](http://www.weconsystems.com)

# CHAIN TRANSFER CONVEYOR OWNERS MANUAL



THIS PAGE LEFT BLANK INTENTIONALLY



# Table of Contents

- INTRODUCTION ..... 5**
- SAFETY WARNINGS ..... 7**
  - BEFORE STARTING MAINTENANCE ..... 7
  - DURING MAINTENANCE..... 7
  - AFTER MAINTENANCE ..... 7
- EQUIPMENT DESCRIPTION ..... 9**
  - EQUIPMENT DESCRIPTION..... 9
- INSTALLATION INSTRUCTIONS ..... 14**
  - POSITION AND ALIGNMENT ..... 14
  - SUPPORT ASSEMBLY ..... 15
  - CONVEYOR FRAME INSTALLATION..... 16
  - MOTOR / DRIVE COMBINATIONS ..... 16
  - INSERTING ROLLERS INTO C.D.L.R. FRAMES..... 16
  - INSTALLING ROLLER CHAINS ON CDLR BEDS ..... 17
  - ROLLER-TO-ROLLER CHAIN DRIVE TO ADJACENT C.D.L.R. BEDS ..... 18
  - DRIVE CHAIN TENSION & ALIGNMENT ON CDLR BEDS..... 18
  - TOP SCALLOP GUARD INSTALLATION ..... 18
  - JOINING FRAMES AND ALIGNMENT..... 19
  - LOCATION AND ALIGNMENT OF CHAIN TRANSFER LIFT MECHANISM ..... 19
  - PREPARING UNIT TO RUN ..... 20
  - C.D.L.R. OPERATION..... 20
  - CHAIN TRANSFER OPERATION ..... 21
  - CONVEYING CHAIN ADJUSTMENT..... 22
  - DRIVE SHAFT ARRANGEMENT..... 22
- MAINTENANCE ..... 23**
  - MECHANICAL MAINTENANCE..... 23
  - ELECTRICAL MAINTENANCE..... 24
- TROUBLE SHOOTING GUIDES ..... 25**
  - MOTOR AND GEAR REDUCER ..... 25
  - CHAIN AND SPROCKETS ..... 25
  - ELECTRICAL..... 26
  - AIR SYSTEMS..... 27

---

<b>PARTS GUIDE .....</b>	<b>28</b>
2-1/2" DIA. X 11 GAUGE ROLLERS, STANDARD BEARING .....	28
2-1/2" DIA. X 11 GAUGE ROLLERS, HEAVY DUTY BEARING .....	28
C.D.L.R. FRAMES .....	28
SCALLOP GUARDS .....	29
C.D.L.R. DRIVE TRAIN COMPONENTS .....	29
C.D.L.R. MOTOR & REDUCER DRIVE COMBINATIONS .....	29
SUPPORTS .....	29
CHAIN TRANSFER DRIVE TRAIN COMPONENTS.....	30
CHAIN TRANSFER MOTOR & REDUCER DRIVE COMBINATIONS .....	30
CHAIN TRANSFER PNEUMATIC COMPONENTS.....	30
CHAIN TRANSFER CONVEYING CHAIN & ASSOCIATED COMPONENTS.....	31
TOUCH-UP PAINT .....	31

THIS PAGE LEFT BLANK INTENTIONALLY



## CHAIN TRANSFER INDUSTRIAL CONVEYORS

### INTRODUCTION

Thank you for purchasing a Chain Transfer Conveyor from Wecon Systems. This model is made of the finest materials available and is manufactured in Canada by skilled craftsmen. The conveyor is very easy to operate and to maintain, but we recommend that you read this owner's manual thoroughly before using the conveyor.

This manual provides installation instructions, start-up procedures, safety tips, a parts list and information regarding preventative maintenance, lubrication and troubleshooting. This conveyor is durable and has been designed for a long service life.

THIS PAGE LEFT BLANK INTENTIONALLY



## SAFETY WARNINGS

**WARNING: DO NOT ATTEMPT MAINTENANCE ON ANY CONVEYOR WHILE IT IS IN OPERATION.**

### BEFORE STARTING MAINTENANCE

- Read and understand instruction manual and be aware of all warning stickers.
- Know where the emergency stop buttons are located.
- Know or have quick access to emergency telephone numbers in the unforeseen event that an emergency should arise.
- Maintenance functions are to be performed while the conveyor is off. The main power disconnect switch to the conveyor shall be locked out in accordance with proper written lockout procedures. This will prevent anyone from applying power to the system while maintenance personnel are at work.
- NEVER work on a conveyor while it is running unless the maintenance procedure requires the equipment to be running. When a conveyor must be operating to perform the maintenance, allow only properly trained maintenance personnel to work on the conveyor.
- Wear safety glasses when in the proximity of the conveyor.
- NEVER allow personnel with long hair near the conveyor without the use of a protective hair net.

### DURING MAINTENANCE

- Do not wear loose clothing, ties or jewelry while servicing or performing maintenance on any conveyor equipment.
- Be aware of hazardous conditions, such as sharp edges and protruding parts.
- When using hoists, cables or other mechanical equipment to perform maintenance, use care to not damage conveyor components.
- Keep area clean. Clean up lubricants and other materials before starting conveyor.

### AFTER MAINTENANCE

- Before starting the conveyor after any maintenance has been completed, walk around the equipment and make certain all safety devices and guards are in place, pick up tools, maintenance equipment and clear any foreign objects from equipment.
- Make certain all personnel are clear of the conveyor and made aware that the conveyor is about to be started.
- Only authorized personnel should be permitted to start any conveyor following maintenance or emergency shut-off.
- Never place any part of your body in or on any part of this conveyor while in operation.
- Do not allow anyone to stand on the conveyor.
- Do not allow horseplay around the conveyor.
- Do not remove guards, perform maintenance or clear obstructions without first locking out the main power disconnect switch.

PLEASE RECOGNIZE ALL WARNING STICKERS AND OBEY ANY SAFETY INSTRUCTIONS. WARNING STICKERS ARE PLACED ON THE EQUIPMENT FOR YOUR SAFETY – PLEASE DO NOT REMOVE THEM. CONDITIONS DO EXIST ON ANY CONVEYOR THAT CAN CAUSE INJURY OR DEATH TO PERSONNEL. NO MANUAL CAN COVER ALL THE HAZARDOUS CONDITIONS THAT MIGHT DEVELOP. ALL PERSONNEL INVOLVED IN THE OPERATION OF ANY CONVEYOR EQUIPMENT SHOULD BE CONSTANTLY AWARE OF ANY UNSAFE CONDITIONS AND USE ALL POSSIBLE CARE, ALONG WITH COMMON SENSE AND STRICT ADHERENCE TO ACCEPTED SAFETY STANDARDS TO AVOID INJURY.



## CHAIN TRANSFER CONVEYORS

### IMPORTANT

Wecon Systems does not warrant parts or components not manufactured by Wecon Systems. The manufacturers of electric motors and controls, air and hydraulic components and certain other items extend warranties, which may or may not be similar to that of Wecon Systems manufactured equipment. Defective material of this type should be reported by the customer to Wecon Systems whose sole responsibility is to notify the vendor of the defective material for action. Wecon Systems will not be responsible for units that have been tampered with or disassembled by anyone other than the authorized representative of the respective manufacturer.

## EQUIPMENT DESCRIPTION

### EQUIPMENT DESCRIPTION

Chain Transfer conveyors operate using a series either two or more strands of conveying chains that are pneumatically raised between the conveyors rollers. Chain transfers are typically used in conjunction with C.D.L.R. beds but can be designed to accommodate other applications. They serve as a means to transfer product 90° perpendicular to or from the main conveyor line onto an adjacent or parallel conveyor. A series of air bags lift the transfer mechanism while the conveying chains are powered to transfer the product. Power for the series of conveying chains is provided by a common drive shaft arrangement in the lift mechanism. All beds are fabricated using heavy duty construction within a steel frame. Double pitch conveyor chain runs along a length of UHMW wearstrip guiding each strand. The wearstrip provides quiet operation, wear resistance and reduces horsepower requirements. Products are conveyed along the surface of the chain.

Chain transfer conveyors are capable of indexing or two-way applications depending on the type of drive used. They are ideally suited to convey pallets or other products that exhibit a uniform, rigid bottom. Heavy duty construction makes these conveyors ideally suited for harsher environments where dirt, grease, heat, oil and other contaminants are present.

Chain Transfer conveyors provide smooth, continuous flow of product under positive control. They are designed to transport the product along a horizontal plane. Chain Transfer conveyors can be used for incline or decline applications with the incorporation of special options. Consult factory for considerations.

Wecon Chain Transfer conveyors are available in different drive configurations. The standard drive configuration is mounted below and within the bed frame. Drives mounted outside the bed frame are available as an option. Centre drives are capable of one-way or two-way operation. End drives are capable of one-way operation only.

Chain transfer conveyors are available with carrier chains on varying centers. Determination of required strand centers is dependant on many parameters including width, weight and deflection of the products surface being transported. Typically, the more uniform the transporting surface, the greater the allowance for larger chain stand centers.

Conveyor frames are heavy duty welded construction consisting of 3/16" formed side channels, utilizing a series of 2" x 2" x 1/4" structural angle cross members bolted to the bottom of the drive channels. The chain strands are mounted along a 3/16" x 2" x 6" rectangular channel. The chain transfer can be manufactured to accommodate the conveyance of product within or extending beyond the width of the mating conveyor bed.

Lift of the transfer mechanism is provided by a series of air bags that provide simple maintenance free operation. The number of air bags utilized is in dependant on the weight and size of the product being conveyed. Air bags are plumbed to a common air source.

A set of fixed stops control the minimum / maximum range of travel of the lift mechanism. Precision guides provide smooth controlled lifting and prevent skewing of the lift mechanism during travel. The stops are factory set to maintain minimum and maximum lift heights.

Access panels are supplied on all chain transfer beds to enclose the common drive shaft arrangement, chains and associated sprockets. These protective panels cover potential pinch points and prevent access to any moving components.

Various accessories and options are available including multiple chain strands, limit switches, proximity switches, solenoid valves, photo eyes, diagonal bracing and guard rails.

**Chain Transfer Drive** – Is the power source that moves the chain. The standard drive configuration is mounted below and within the bed frame. Drives mounted high, and drives mounted outside the bed frame are available as options. Standard drives have fixed speeds. All are capable of indexing. Centre drives are capable of one-way or two-way operation. For two-way operation, the drive must be located as close as possible to the center of the bed length, midway between each end. This makes for roughly equal runs of chain to each side of the drive, keeping the required chain pull to a minimum. End drives are capable of one-way operation only.

**Chain Transfer Conveying Chain** – Provides a surface to carry the product. Consists of heavy duty riveted double pitch chain C2060 or C2080 depending on the required load capacity. The double pitch conveyor chain reduces product damage and wears when compared to standard roller chain.

1. C2060 double pitch conveyor chain is used to accommodate a maximum unit load of 2000 lbs. The conveying chain is drawn along a length of UHMW wearstrip through a series of C2060A idler sprockets within the transfer mechanism.
2. C2080 double pitch conveyor chain is used to accommodate a maximum unit load of 4000 lbs. The conveying chain is drawn along a length of UHMW wearstrip through a series of C2080A idler sprockets within the transfer mechanism.



**DOUBLE PITCH CONVEYOR CHAIN POSITIONED ON LIFT MECHANISM**

**Mating Conveyor** – Our typical C.D.L.R. conveyor that operates in conjunction with the chain transfer uses a series of roller-to-roller chain driven double sprocketed rollers within a formed steel channel bed. All beds are fabricated using heavy duty welded construction. Separate chains connect each pair of sprocketed rollers providing positive drive and a controlled speed. Products are conveyed along the surface of the rollers. CDLR conveyors can be used for conveying products with higher load capacities and are capable of indexing or two-way applications. They are ideally suited to transport wood, plastic, fiberboard, pallets and drums. Heavy duty construction makes equipment ideally suited for harsher environments where dirt, grease, heat, oil and other contaminants are present.

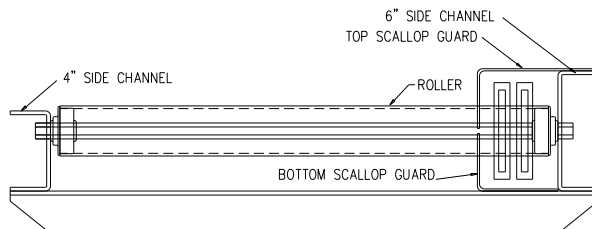
C.D.L.R. conveyors provide smooth, continuous flow of product under positive control. They are designed to transport the product along a horizontal plane. CDLR conveyors are not suitable for incline or decline applications. They can provide a positive stop to begin an indexing or accumulation process.

Wecon C.D.L.R. conveyors are available in a number of different drive configurations. The standard drive configuration is mounted below and within the bed frame. Drives mounted high, and drives mounted outside the bed frame are available as options. Centre drive configurations are capable of one way or two-way operation.

C.D.L.R. conveyors used for chain transfer applications are available with standard carrier rollers of 6.25" or 7.5" centers. Determination of required roller centers is dependant on at least three rollers being able to support the product. Typically, the more uniform the transporting surface, the greater the allowance for larger roller centers.

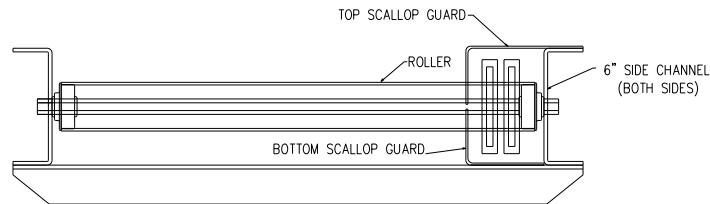
Bed frames are heavy duty welded construction consisting of 3/16" formed side channels, with a series of 2" x 2" x 1/4" structural angle cross members welded to the bottom of the side channels.

Our standard C.D.L.R. model has carrier rollers high one side. With the rollers high one side, the frame consists of a 3/16" x 4" formed side channel and a 3/16" x 6" formed side channel punched to accommodate this configuration. On standard model conveyors where the rollers are high one side, it allows for side loading of the product from one side of the conveyor only, in addition to loading from the end of the conveyor.



**STANDARD CHAIN DRIVEN LIVE ROLLER – ROLLERS HIGH ONE SIDE**

Carrier rollers low are available as an option. With the rollers low, the 3/16" x 6" formed side channels are punched low to accommodate this configuration. This extends the side channel in plane above the height of the carrier rollers. With rollers low, the width of the product being conveyed must be no greater than the usable conveyor width. The usable conveyor width is determined as the dimension between the inside of the top scallop guard to the inside of the opposite side channel. Carrier rollers in this low position help contain the product within the conveyor and help to maintain product centering. On C.D.L.R. conveyors where the rollers are low, products are typically loaded from the end of the conveyor.



### OPTIONAL CHAIN DRIVEN LIVE ROLLER – ROLLERS LOW

Scallop guards are supplied on all beds enclosing all chains and sprockets. These protective guards cover both the top and bottom of the unit. Top scallop guards are removable while bottom scallop guards are a component of the conveyor frame. End caps are bolted in position using the butt plates welded into the frame. These enclose the open ends of the scallop guards preventing access to any moving components. Upper scallop guards and end caps are painted safety yellow.

**C.D.L.R. Drive** – Is the power source that moves the rollers. The standard drive configuration is mounted below and within the bed frame. Drives mounted high, and drives mounted outside the bed frame are available as options. All are capable of indexing and two-way operation. Standard drives have fixed speeds. The drive must be located as close as possible to the center of the bed length, midway between each end. This makes for roughly equal runs of chain to each side of the drive, keeping the required chain pull to a minimum.

**C.D.L.R. Rollers** – Provide a surface to convey the product.  
consisting of two types:

1. Intermediate Rollers  
consist of:  
Shell - 2.5" diameter x 11-gauge wall steel tubing  
(2) Type A sprockets are welded to the tube  
Bearings are standard duty with a capacity of 600 lbs per roller  
Axle - 11/16" hex spring loaded axle

2. Drive Rollers (heavy duty)  
consist of:  
Shell - 2.5" diameter x 11-gauge wall steel tubing  
(2) Type A sprockets welded to the tube  
Bearings are heavy duty with a capacity of 1000 lbs per roller  
Axle - 1 1/16" hex spring loaded axle



**Heavy Duty Supports** – Must be mounted to the floor. Numerous width and height combinations are available.



**HEAVY DUTY SUPPORT**



**CHAIN TRANSFER SUPPORT SHOWING LIFTING MECHANISM**

# INSTALLATION INSTRUCTIONS

## POSITION AND ALIGNMENT

Proper mechanical installation is vital for the equipment to operate as described. Our installation standards show the importance that Wecon places on a quality installation.

### Installation Standards

- **In General:**  
The following standards, where applicable, will be used as guidelines by Wecon approved installers.
- **Dimensional Reference Points:**  
The location of each conveyor in the system will be determined by establishing a reference point to the center of each conveyor from the fixed building column lines as indicated on approved general arrangement drawings.
- **Level and Elevations:**  
Conveyors will be installed in accordance with the elevations shown on the layout drawing(s).  
After the first elevation is established, the elevation of all other points will be related to this first point. The practice of dimensioning elevations from the floor at each point of support will not be followed. When the floor level changes significantly, such as the system going to an upper or lower floor, or into another building or room, a new elevation will be established from the first floor at that point. This new elevation will then become the reference point for subsequent elevations.
- **Standards For Floor Mounting:**  
Anchoring will be accomplished by drilling into the floor and inserting a suitable anchor bolt in an approved manner in accordance with the manufacturer's instructions.  
Drive and intermediate stands will be anchored with 3/8" diameter minimum bolts, one in each leg.  
Explosive type anchors will not be used. Adhesive or specialized anchors will be used only when specified.



## Floor Mounted Units

- At the desired position for the conveyor, snap a chalk line (not in excess of 100 feet per run) on the floor location for the centre line of the unit.
- Use a plumb line to align the centre line of each conveyor section to the chalk line.
- Set height of unit.
- Adjust the conveyor both lengthwise and diagonally using a level.

NOTE: Beds must be level from side to side to prevent the possibility of skewing the product.

## SUPPORT ASSEMBLY

Supports are fastened to the bottom flange utilizing holes designed into each bed section. For intermediate beds, supports can be installed directly under a bed joint to support two adjacent bed sections. For single bed applications, supports can be mounted in the first available set of holes at the charge and the discharge ends of the conveyor. Mounting a support can be accomplished by either lifting the bed section into position onto a support or attaching the support to a bed section prior to lifting it into position. After the conveyor has been aligned and leveled, anchor the supports to the floor in an approved manner in accordance with the anchor bolt manufacturers instructions.



**HD SUPPORT MOUNTED ON END**



**HD SUPPORT MOUNTED ON JOINT**

\*\*\*Note: It is recommended if your conveyor is supplied with rollers not installed in the bed that the supports be mounted to the conveyor prior to the installation of the rollers.

## CONVEYOR FRAME INSTALLATION

It is recommended that only trained personnel install or service this equipment.

Wecon Chain Transfer conveyors are shipped on skids, generally, not exceeding 4000 pounds, for lift truck unloading and handling. The skids may also be handled with a crane if one is available. If a crane is utilized, ensure the operator is certified in the competency of its operation. Each skid will vary in width, length and height depending upon the style of product purchased.

The conveyor frames, supports, rollers and accessories should be thoroughly inspected before proceeding with the conveyor installation. Upon delivery, be sure to check the following items very carefully:

- The alignment of the frames, to ensure horizontal and parallel orientation.
- The equipment to ensure there is no visible damage to the frames or rollers.

## MOTOR / DRIVE COMBINATIONS

- For two-way operation, the drive must be located as close as possible to the center of the bed length, midway between each end. This makes for roughly equal runs of chain to each side of the drive, keeping the required chain pull to a minimum.
- Prior to start up, check and verify the reducer has the correct level of oil and that breather plugs (if required) are installed correctly before operating the motor.

## INSERTING ROLLERS INTO C.D.L.R. FRAMES

- With the top scallop guard removed, insert the axle of the sprocket end of the roller into the conveyor frame on the chain guard side.
- Push the shaft into the roller from the non-sprocket end of the roller and slide roller into corresponding hex hole.
- When installing the rollers for a conveyor equipped with a drive make sure the drive rollers (heavy duty) are installed above the opening where the drive chain will come through the chain guard. Drive rollers (heavy duty) will be identified for those units where rollers are shipped loose.

## INSTALLING ROLLER CHAINS ON CDLR BEDS

- Start from the two drive rollers (heavy duty) and work outwards to each end of the conveyor. Select a pre-cut chain length and wrap it around the inner most sprocket on one of the drive rollers and around the corresponding sprocket on the adjoining intermediate roller.
- Join the length of chain by inserting a connecting link. Roller-to-roller driven chains are self aligning.
- Install the next pre-cut chain on the opposite sprocket and wrap the chain around corresponding sprocket of the next intermediate roller down the line. Join the length of chain by inserting a connecting link.
- By joining the intermediate rollers first, this allows the rollers to be rotated within the bed enabling ease of installation of subsequent roller segments. Repeat as necessary until all rollers have been connected within the frame.
- Once all intermediate rollers have been connected, the drive chain must be installed on the two drive rollers.
- Install the drive chain to the remaining outer most sprockets of the two drive rollers and the driver sprocket of the motor / drive combination. Wrap it around the series of three sprockets using a straight edge to align them.
- Join the chain by inserting a connecting link. There should be no more than 1/4" deflection in the slack portion of the chain. Any excess slack can be removed by setting the take-up in the adjustable drive base. Ensure the drive chain clears the cut out in the lower scallop guard and doesn't cause any interference.
- Once all rollers have been connected within the frame, install the top scallop guard, end caps, and drive chain guard.



### ROLLER-TO-ROLLER CHAIN INSTALLATION

## ROLLER-TO-ROLLER CHAIN DRIVE TO ADJACENT C.D.L.R. BEDS

When a motor / drive combination powers more than one bed section, a roller-to-roller driven chain needs to be installed at the bed joint. The top scallop guard of each bed will need to be removed. Ensure each bed section is joined to one another ensuring proper alignment procedures. Check for match marking sequence on adjacent beds. Each adjacent bed is identified at the factory to maintain chain pattern integrity. Select a pre-cut length of chain and wrap it around the corresponding sprockets of the last roller in each bed section. Join the length of chain by inserting a connecting link. The roller-to-roller chains between each bed section are self-aligning. Replace all top scallop guards before running the conveyor. A maximum of 80 rollers can be driven on each side of the drive (depending on speed and load).

## DRIVE CHAIN TENSION & ALIGNMENT ON CDLR BEDS

Drive chain tension should be adjusted to allow a maximum of 1/4" per foot chain deflection between the drive roller (heavy duty) sprockets and driver sprocket of the motor / drive combination on the slack side. Use a straight edge to align the series of sprockets. Any excess slack can be removed by setting the take-up in the adjustable drive base. Make sure the all setscrews on the driver sprocket are tight when finished. Replace the chain guard after adjusting the drive chain to the proper tension.

## TOP SCALLOP GUARD INSTALLATION

Bolt the yellow top scallop guard to the C.D.L.R. bed using the 3 holes supplied. This guard is manufactured in 5 ft lengths and two are required per 10 ft section. Top scallop guards can be removed for maintenance and access to the rollers.



**SCALLOP GUARD TOP VIEW**

## JOINING FRAMES AND ALIGNMENT

When required the C.D.L.R. conveyor may be joined at the ends using the butt plates welded into the frame.

- Check for match marking sequence on adjacent beds. Each adjacent bed is identified at the factory to maintain chain pattern integrity.
- Centerline alignment - use a transit or taut string to ensure the conveyor frame is straight when viewed from above and from the end.
- Cross alignment - use a straightedge and level laid across the conveyor frames at several places to ensure it is level crosswise. Begin at one end using the support adjustment to level the frame. All frames and scallop guards must line up.
- Bolt the supports to the floor using suitable anchor bolts in an approved manner in accordance with the manufacturer's instructions (anchor bolts are not included).
- After the entire conveyor has been installed, check the alignment again following the same procedure listed above. Proper alignment is critical since improper alignment causes motor overload, premature chain wear and jamming.

## LOCATION AND ALIGNMENT OF CHAIN TRANSFER LIFT MECHANISM

All chain transfer assemblies are shop tested to ensure full functionality of the unit. The height of the conveying chains on the lift mechanism has been preset to ensure a collapsed position of 1/4" below the top of the rollers. Stops have been set to restrict the range of travel of the lift mechanism to 1 inch. This allows the carrying chain to be raised to a height of 3/4" above the rollers when energized satisfying most conveyance requirements while maintaining minimal field adjustments.

For shipping purposes, if the transfer mechanism extends beyond the width of the bed the chain transfer is then broken down for ease of transport. Chain transfers are match marked with the mating unit to ensure product integrity and ease of installation.

- On site, check for match marking sequence on the lift mechanism for the corresponding conveyor bed (if applicable). Where C.D.L.R. conveyors are utilized, each adjacent bed is identified at the factory to maintain product integrity.
- Centerline alignment - use a transit or taut string to ensure the conveyor frame is straight when viewed from above and from the end.
- Cross alignment - use a straightedge and level laid across the conveyor frames at several places to ensure it is level crosswise. Begin at one end using the support adjustment to level the frame. All frames and scallop guards must line up.
- On units where the equipment has been shipped broken down, after positioning and installing the mating conveyor of the chain transfer assembly in the layout, the lift mechanism can then be lifted and placed into position in the bed.
- Support the end of the lift mechanism and remove the support from the end of the section that is to be installed in the mating conveyor.

- For those rollers that will interfere with the re-assembly of the lift mechanism to the chain transfer, push the shaft into the roller from the non-sprocket end of the roller and slide the end of roller from the hex hole to dislodge those rollers from the frame.
- Once all rollers that interfere with the assembly have been moved aside, carefully slide the strands of the lift mechanism between the rollers.
- Position the support that was removed from the end of the lift mechanism in place within the conveyor frame of the mating conveyor.
- Align the holes in the lower tabs of the rectangular channels on the lift mechanism to the holes in the top of the support and bolt in place.
- Fasten the supports in place to the cross member of the mating conveyor.
- Bolt the supports to the floor using suitable anchor bolts in an approved manner in accordance with the manufacturers instructions (anchor bolts are not included).
- Replace those rollers that were removed from the frame by reversing the procedure.
- After the entire conveyor has been installed, check the alignment again following the same technique listed above. Proper alignment is critical since improper alignment causes motor overload, premature chain wear and jamming.
- Once the pneumatic source has been established, run the necessary lines to the conveyor and connect and plumb unit to the air supply in accordance to applicable codes and regulations.

## PREPARING UNIT TO RUN

- All electrical controls must be installed, wired and connected by a licensed electrician only.
- Check to ensure the motor is properly wired for correct rotation with respect to the direction of travel.
- Make certain that installation is in conformance to all local codes and regulations.
- Ensure the conveyor path is free from oil, debris and other foreign objects.
- Prior to start up, check and verify if the reducer has the correct level of oil and that breather plugs (if required) are correctly installed before operating the motor.
- Check to ensure all guards are in place and that all hardware has been tightened.
- Ensure that all personnel are clear, then run unit and observe travel.

## C.D.L.R. OPERATION

- With unit running, observe direction of roller travel over the length of the bed and through all components.
- Listen for any noisy bearings, sprockets, motors, reducers or other vibrations. Correct any problems immediately.
- Run conveyor with a moderate load of product on conveyor and check for positive drive.

- Check to ensure supports are level.
- Remove any dirt build up from the rollers that could effect the operation of the conveyor.
- Any rollers that show visual signs of damage should be replaced.

## CHAIN TRANSFER OPERATION

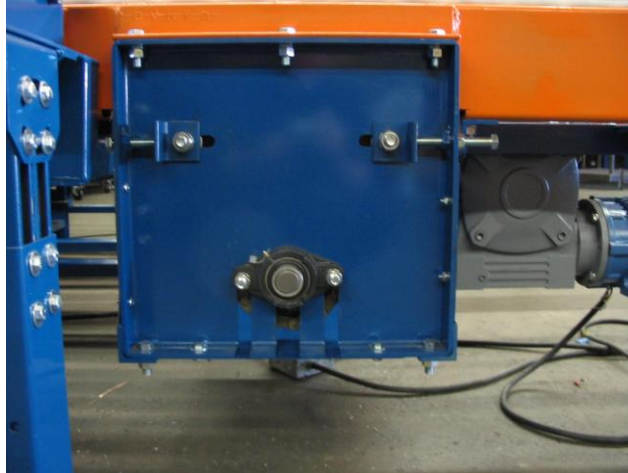
- With unit running, observe direction of chain travel over the length of the transfer mechanism and through all components.
- Listen for any noisy bearings, sprockets, motors, reducers or other vibrations. Correct any problems immediately.
- Energize the pneumatic system. When energized, ensure the conveying chain travelling along the transfer mechanism attains a height above the top of the rollers. When the system is de-energized the conveying chain must fall below the top of the rollers. Ensure the lift mechanism has a full range of travel without any obstruction. Measure and check to ensure the conveying chain is parallel and maintains a 3/4" lift above the top of the rollers in order to effectively transfer product. If lift height is compromised, make necessary adjustments to the supports to ensure the 3/4" lift is maintained.
- Check to ensure chain tracks are level.
- Once the energized height of the chain transfer lift has been obtained and verified, drill a hole to suit 3/8" hardware in the side of each leg through the boot and support upright. These holes will be used to install a fasteners which will lock and affix the height of the support preventing the possibility of undue movement of the chain transfer that may result from shock loading.
- Remove any dirt build up from the conveying chain that could effect the operation of the conveyor.
- Any components that show visual signs of damage should be replaced.



**CHAIN TRANSFER END VIEW**

## CONVEYING CHAIN ADJUSTMENT

- With unit running, observe the travel of the conveying chain over the length of the transfer mechanism and through all components.
- Slack conveying chain may be taken up by making adjustments to the individual take-ups located in the side panels of the adjustable drive shaft arrangement below and unique to each chain strand.
- Tension of the conveying chain is set according to standard chain tensioning procedures.



**SIDE PANEL SHOWING TAKE UPS AND ADJUSTABLE DRIVE SHAFT ARRANGEMENT**

## DRIVE SHAFT ARRANGEMENT

- The chain transfer has been designed to incorporate easy access and servicability of components. A series of access panels are bolted in position to prevent access to any moving parts.
- The side panels of the drive shaft arrangement are slotted to allow the common drive shaft to be dropped from the chain transfer for service or replacement.
- Prior to working on any conveyor, all personnel must observe proper lock out procedures for their safety.
- The shaft, bearings, or sprockets of the common drive shaft arrangement can be dropped out from the bottom of the chain transfer for repair or replacement after the power has been locked out.
- Remove access guards enclosing the moving components.
- Disconnect conveying chains and applicable drive chains.
- Remove fasteners holding the bearings while supporting the assembly to ensure the drive shaft arrangement unit does not fall on the floor. Uncouple drive shaft arrangement from the bed.
- Reverse procedures to reassemble unit.



## MAINTENANCE

**WARNING: DO NOT ATTEMPT MAINTENANCE ON ANY CONVEYOR WHILE IT IS IN OPERATION.**

### MECHANICAL MAINTENANCE

Item	Schedule Service	Suggested Maintenance
Gear reducer	At start-up and every month of operation	Check oil
	Yearly	Change oil
Motor	At start-up and every month of operation	Check mounting hardware and align if necessary
Drive chain	Monthly	Check tension and alignment
	Monthly	Clean and lubricate with recommended oil using a brush or spray
Roller bearings	Weekly	Check for unusual noise or excessive wear, replace as required
Roller chains	Monthly	Check tension and alignment
	Monthly	Clean and lubricate with recommended oil using a brush or spray
Protective guards	At start-up and every week of operation	Check to ensure all guards are in place and properly secure
Air systems	Daily	Listen and always be alert for leaks anywhere in the system and correct promptly
	Weekly	Check and ensure air pressure is set at 80 PSI at the main inlets and all locations where the air pressure is regulated. Adjust pressure as necessary by adjusting regulator. Check for proper PSI settings on all air regulators
	Weekly	Check and drain fluid from filter bowls. Inspect and replace filter elements when dirty or clogged
Supports	Weekly	Check to ensure supports have not been damaged and are properly secured
Hardware	At start-up and every week of operation	Check to ensure all fasteners are in place and properly tightened

Note: Gear reduction drives units are filled with lubricant prior to shipping. The lubricant level should be checked prior to start-up and the breather plug installed in the proper location (see reducer manual supplied with unit). Only refill reducers with the approved lubricant required for standard service - if service is more severe; the oil should be changed more frequently.  
Consult the reducer manufacturer for a more specific lubrication schedule.

**ELECTRICAL MAINTENANCE**

**WARNING: DISCONNECT ALL POWER BEFORE PERFORMING THE FOLLOWING MAINTENANCE. ENSURE THE MAIN POWER DISCONNECT SWITCH TO THE CONVEYOR IS LOCKED OUT IN ACCORDANCE WITH PROPER WRITTEN LOCKOUT PROCEDURES.**

**ONLY QUALIFIED PERSONNEL SHOULD PERFORM THE FOLLOWING MAINTENANCE.**

Note: A qualified person should keep a logbook of the following readings noting and documenting any excessive changes from normal that could indicate a potential problem.

1. Measure voltages and current of incoming power to enclosure.
2. Measure current readings of all motors.
3. Measure current readings on primary and secondary of control transformer to insure proper infeed and outfeed voltage.
4. Review usage - excessive use of fuses or replacing the same part several times indicates an excessive current draw, faulty components, or exceeding the capacity of the conveyor unit.

Item	Schedule Service	Suggested Maintenance
Control panels and pushbutton enclosures	Always	Enclosures should be clean and dry
	Weekly	Check if components have vibrated loose, check door/power interlocks and latches
	At start-up, monthly or if any problems occur	Check for loose or discolored wires (Discolored wires indicate an excessive current draw)
Photoeyes	At start-up, weekly	Dust, oil and foreign objects should be wiped from lenses and reflectors
Limit switches	Weekly	Check arms for adjustment and tightness
Pushbuttons	Weekly	Check wires and terminals for tightness
Emergency stop devices	Weekly	Check for proper operation
Conduit and conduit hangers	Monthly	Check for alignment and damage, exposed wiring
Wiring	At start-up, monthly or if any problems occur	Check for exposed cords and wires for damage, replace as necessary

## TROUBLE SHOOTING GUIDES

### MOTOR AND GEAR REDUCER

Problem	Possible Cause	Suggested Solution
Hard to start, stalling out or running hot	Drag on conveyor	Inspect for obstruction causing drag and remove
	Lack of lubricant	Check oil level in gearbox, verify vent breather plug is open
	Overloaded	Remove load and possibly increase horsepower
	Electrical	Check wiring, circuits and take load readings
Excessive noise	Lack of lubricant	Check oil level in reducer and add if required
	Damaged gears	Replace unit
	Faulty bearing	Replace bearing

### CHAIN AND SPROCKETS

Problem	Possible Cause	Suggested Solution
Abnormal wear	Excessive chain tension	Reduce the chain tension
	Misaligned sprockets	Align sprocket faces using a straight edge and tighten set screws
	Chain not lubricated	Lubricate with proper lubricant
	Damaged chain or sprocket	Replace damaged component
	Misaligned chain guard	Adjust as required
Excessive noise	Loose chain	Adjust chain tension
	Chain not lubricated	Lubricate with proper lubricant
	Misaligned sprockets	Align sprocket faces using a straight edge and tighten set screws
Pulsating chain	Improper chain tension	Adjust chain tension
	Overloaded conveyor	Inspect for obstruction causing drag or remove excess load
Broken chain	Seized or sticking roller, sprocket or shaft	Inspect and replace damaged items
	Worn or damaged chain	Replace damaged chain
	Obstruction	Inspect conveyor for obstruction and remove
Sprockets loose on shaft	Loose set screws	Align sprocket faces using a straight edge and tighten set screws
	Worn or damaged key	Replace key and inspect shaft keyway for damage
Chain slack	Normal wear	Adjust chain to proper tension or replace chain

ELECTRICAL

Problem	Possible Cause	Suggested Solution
Motor not operating	Emergency stop activated	Reset pull cord, air pressure switch or pushbuttons
	Blown fuses	If resistance from hot to ground is OK replace fuse
	Overload relay tripped	Reset relay, measure current draw
	Check for wiring problems	Check wiring diagram for correct connections
Unit running wrong direction	3 phase motor wired incorrectly	Check proper voltage wiring diagram
	1 phase motor wired incorrectly	Check proper voltage wiring diagram
	DC motor wired incorrectly	Check proper voltage wiring diagram
Overload relay trips	Check setting on overload relay with full load amperage on motor nameplate	If incorrect, reset overload relay
	Check for mechanical binding or jams	Remove item creating drag load on unit - check belt
	Additional load is too much for motor	Decrease the amount of product load on unit
	Check if motor current draw is high	Drive may require more horsepower-consult factory
Unit operates sporadically	Check photoeyes	Clean lenses and check for proper alignment
	Check reflectors	Clean and check for proper alignment
	Limit switches	Check arm location and tightness
	Solenoids	Check pressure at the valve
	Loose connections	Check wire nuts and terminal strip

**AIR SYSTEMS**

<b>Problem</b>	<b>Possible Cause</b>	<b>Suggested Solution</b>
Equipment fails to operate	Non-functioning air bag	Check for air pressure at regulator and ensure pressure is set at 80 PSI, adjust if necessary
		Check air bag for damage, replace if necessary
		Check flow control valve in exhaust port of solenoid valve, replace solenoid if necessary
		Check for defective solenoid, replace if necessary
	Loss of air pressure	Check air line connections for possible leakage and tighten connections if necessary
		Check air compressor, turn on if necessary
	Sluggish or slow activation of pneumatics	Check for foreign matter or debris in air lines, clean lines if necessary
		Check for presence of moisture in lines, drain if necessary
		Check air pressure, solenoid valves, adjust or replace as necessary
		Dirty or plugged flow control, clean or replace as necessary

**DO NOT ATTEMPT MAINTENANCE ON ANY CONVEYOR WHILE IT IS IN OPERATION. DISCONNECT ALL POWER WHILE PERFORMING ANY MAINTENANCE FUNCTIONS ENSURING THAT THE MAIN POWER DISCONNECT SWITCH TO THE CONVEYOR IS LOCKED OUT IN ACCORDANCE WITH PROPER WRITTEN LOCKOUT PROCEDURES.**

## PARTS GUIDE

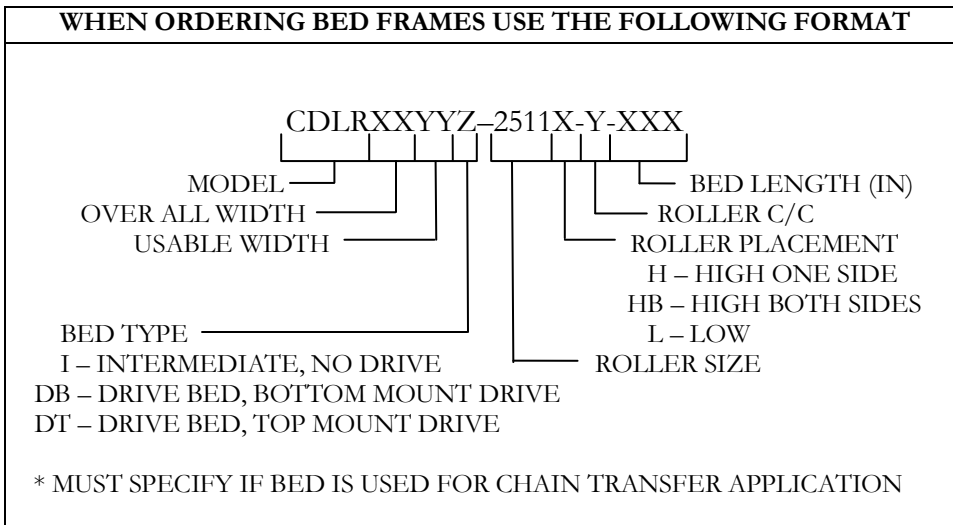
### 2-1/2" DIA. X 11 GAUGE ROLLERS, STANDARD BEARING

2-1/2" DIAMETER x 11 GAUGE c/w (2) 50A18 SPROCKETS (nominal bed width)	PART NUMBER
24"	2511-20-CDLR
30"	2511-26-CDLR
36"	2511-32-CDLR
42"	2511-38-CDLR
48"	2511-44-CDLR
54"	2511-50-CDLR
60"	2511-56-CDLR
66"	2511-62-CDLR
72"	2511-68-CDLR

### 2-1/2" DIA. X 11 GAUGE ROLLERS, HEAVY DUTY BEARING

2-1/2" DIAMETER x 11 GAUGE c/w (2) 50A18 SPROCKETS (nominal bed width)	PART NUMBER
24"	2511-20H-CDLR
30"	2511-26H-CDLR
36"	2511-32H-CDLR
42"	2511-38H-CDLR
48"	2511-44H-CDLR
54"	2511-50H-CDLR
60"	2511-56H-CDLR
66"	2511-62H-CDLR
72"	2511-68H-CDLR

### C.D.L.R. FRAMES



**SCALLOP GUARDS**

COMPONENT	PART NUMBER
Top scalloped guard 2-1/2" dia. rollers on 6.25" CC x 60" lg bed	CDLR-SGT-625-60
Top scalloped guard 2-1/2" dia. rollers on 7.5" CC x 60" lg bed	CDLR-SGT-750-60
Scalloped guard end guard	CDLR-SGEG-6

**C.D.L.R. DRIVE TRAIN COMPONENTS**

COMPONENT	PART NUMBER
Drive base	DB-CC60
Driver sprocket	50B14 x 1
RC 50 chain	RC 50 x length
RC 50 connecting link	RC-50-CL
RC 50 offset link	RC-50-OL
Drive chain guard	CDLR-CG-4011

**C.D.L.R. MOTOR & REDUCER DRIVE COMBINATIONS**

COMPONENT	PART NUMBER
3/4 HP Motor 575V 56C TEFC	FC.75504
Motor – refer to order	Specify manufacturer, HP, voltage, enclosure, mtg from motor nameplate
Reducer CC60 30:1 ratio LH 56C	CC60-30-LH56
Reducer – refer to order	Specify manufacturer, style, size, ratio, handing, mtg from reducer nameplate

**SUPPORTS**

WHEN ORDERING SUPPORTS USE THE FOLLOWING FORMAT
<p> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> - <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> - <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> <span style="border: 1px solid black; padding: 2px;"> </span> X                      MODEL                      B.F.R.                      MAX. SUPPORT HEIGHT                      OVER ALL WIDTH                      MIN. SUPPORT HEIGHT                      BLANK FOR STANDARD                      H FOR HEAVY DUTY                      M FOR MOBILE                 </p>

**CHAIN TRANSFER DRIVE TRAIN COMPONENTS**

COMPONENT	PART NUMBER
Drive base wmt	11689-DB-WMT
Driver sprocket 60B18 x 1-1/2" bore	60B18 x 1-1/2
Driven sprocket 60B25 x 1-3/16" bore (common drive shaft)	60B25 x 1-3/16
2 hole flange brg x 1-3/16" bore (common drive shaft)	UCFL-206-19
1-3/16" dia x 36-15/16"lg shaft c/w full kwy (common drive shaft)	CR-K-250-1-3/16 x length
Driver sprocket 60B24 x 1-3/16" bore (common drive shaft)	60B24 x 1-3/16
RC 60 chain	RC 60 x length
RC 60 connecting link	RC-60-CL
RC 60 offset link	RC-60-OL

**CHAIN TRANSFER MOTOR & REDUCER DRIVE COMBINATIONS**

COMPONENT	PART NUMBER
2 HP Motor 575 volt 145TC frame	CT002504P
Motor – refer to order	Specify manufacturer, HP, voltage, enclosure, mtg from motor nameplate
Reducer CC100 60:1 ratio LH 145 frame	CC100-60-LH
Reducer – refer to order	Specify manufacturer, style, size, ratio, handing, mtg from reducer nameplate

**CHAIN TRANSFER PNEUMATIC COMPONENTS**

COMPONENT	PART NUMBER
Firestone air actuator 1-1/2" maximum stroke	16-ST-W02-358-5000
Filter / regulator unit 1/2" NPT	MIN MAFR401-15A-NPT
Solenoid valve 5 way / 2 position 1/4" NPT 120 V.A.C.	AZP 522ME-S
Poly tubing 3/8" PE-662FN	POLY-0.25 x length
Poly tubing 1/2" PE-8N	POLY-0.375 x length
Linear guide	SFB 16



**CHAIN TRANSFER CONVEYING CHAIN & ASSOCIATED COMPONENTS**

<b>COMPONENT</b>	<b>PART NUMBER</b>
C2060 chain - heavy duty riveted	C2060H
C2060 connecting link - heavy duty	C2060H/2062H-C/L
UHMW chain guide track to suit 2060 chain x 10 ft long	HB-2060-10
Self tapping screw #8-32 UNC x 7/16" lg	ST-565P
Idler sprocket C2060 A 17 x 5/8" bore	HNC2060A17X5/8

**TOUCH-UP PAINT**

<b>COLOUR</b>	<b>PART NUMBER</b>
Wecon (shop) blue	P-S-BLUE
Ermanco blue (ER-1)	P-E-BLUE-ER-1
Ermanco blue (ER-2)	P-E BLUE-ER-2
Medium grey	P-M-GREY
Wecon (shop) green	P-S-GREEN
Safety yellow	P-S-YELLOW