



CDLR CONVEYOR MAINTENANCE MANUAL

(CHAIN DRIVEN LIVE ROLLER)



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Section 1: Safety Considerations

****Users are responsible for the safe operation of equipment. Adhere to local health and safety regulations before using any equipment. The responsibility of safety and safe operation lies with the user, not Rolmaster. Consult a professional engineer or safety engineer to review local regulations. Recognize all warning stickers and do not remove labels. All personnel involved with the operation of conveyor equipment should remain aware of hazards and risks while conveyor is in use. Use with caution and adhere to safety standards to avoid injury or death ****

WARNING: DO NOT PREFORM MAINTENANCE ON ANY CONVEYOR UNLESS LOCKED OUT

General Safety



To reduce the risk of injury, strict adherence to local health and safety regulations is required. Do not remove safety labels from equipment.



Only trained and experienced personnel should perform inspections and maintenance on the conveyor.



Never conduct maintenance tasks while the conveyor is operating.



Always be vigilant for potential hazards, such as sharp edges or protruding parts.



Use the conveyor solely for its intended purpose.



Do not operate the conveyor unless it is properly anchored, stable, and level.



Under no circumstances should personnel ride the conveyor

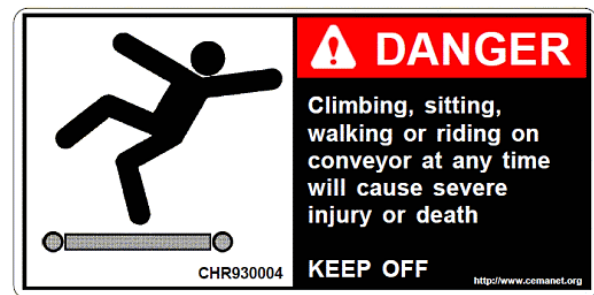


Conduct regular, scheduled perimeter checks to assess its condition. Promptly report abnormal behaviors, sounds or observations detected during observation.

- Refer to Section 2 (Maintenance and Inspection Schedule)

Warnings and Labels

Safety labels remind all personnel about the potential hazards and risks in the workplace. It is important to inspect equipment for proper safety labels, and positioning to ensure that all personnel are aware of and obey these warnings. The following section contains various safety labels that may be found on your equipment.



Section 2: Maintenance

Tools Required

Tools required to perform maintenance on CDLR conveyors include:

1. **Wrenches or socket sets**
2. **Straight edge**
3. **Pliers** (Needle Nose)
4. **Allen Keys**
5. **Cleaning Products.**
6. **Lubricant** (refer to page 6)
7. **Personal Protective Equipment (PPE)**

Maintenance Inspections

CDLR Conveyors require periodic maintenance to ensure the longevity of the conveyor. Regular inspections for performance, damage, lubrication, hardware, and debris are suggested. Routine inspections for preventative maintenance should be conducted to ensure all parts function properly. Replace damaged parts immediately to avoid further wear.

Preventative Maintenance and Inspection Schedule

ITEM	INTERVAL	REQUIRED MAINTENANCE
Coupling chain	Weekly	<ul style="list-style-type: none"> • Lubricate if/when needed
	Quarterly	<ul style="list-style-type: none"> • Inspect for signs of wear or damage
Drive Chain	Weekly	<ul style="list-style-type: none"> • Lubricate if/when needed
	Quarterly	<ul style="list-style-type: none"> • Inspect for signs of wear or damage. • Check tension and alignment.
Drive Sprocket / Roller Sprockets	Quarterly	<ul style="list-style-type: none"> • Inspect for signs of wear. • Inspect alignment. • Replace worn drive sprockets.
Gear Motor	Weekly	<ul style="list-style-type: none"> • Listen for irregular noises. • Check for overheating. • Check for leaks • Check for signs of wear and damage.
	Monthly	<ul style="list-style-type: none"> • Check mounting bolts are secure. • Check electrical conduit for damage, corrosion, blockage, and loose connection.

Hardware	Monthly and During Installation	<ul style="list-style-type: none"> • Check all fasteners are in place. • Ensure hardware is properly tightened and not missing.
Rollers	Weekly	<ul style="list-style-type: none"> • Check for unusual sounds. • Ensure all rollers are intact and rolling freely. • Look for signs of visual wear. i.e. dents, nicks, cuts, lodged or stuck components. • Clean roller surface to remove built up debris.
	Monthly	<ul style="list-style-type: none"> • Examine rollers while in operation. • Check for unusual noises or malformities. • Inspect conveyor and rollers for loose components.
Supports	Monthly	<ul style="list-style-type: none"> • Check hardware, tighten as necessary. • Check for damage.

Suggested lubrication

Only high-quality oil should be used to lubricate the roller chain. Neither heavy oil nor grease is suitable. The viscosity of the oil used will depend on the chain size, chain speed and ambient temperature. For the longevity of chains, a consistent film of oil is recommended.

- Over-lubrication can damage seals and result in premature failure from contamination due to the inability of damaged seals to keep foreign material out of the bearing.
- There is no need for lubricating roller bearings, Rolmaster CDLR roller bearings are sealed for life and not re-greaseable.

CHAIN NUMBER	TEMPERATURE			
	14° – 32° F	32° – 104° F	104° – 122° F	122° – 140° F
RS50 or less	SAE 10	SAE 20	SAE 30	SAE 40
RS60 and RS80	SAE 20	SAE 30	SAE 40	SAE 50
RS100				
RS120 or more	SAE 30	SAE 40	SAE 50	

* Generic chain lubrication list only – use oil tailored to the conveyors operating range and conditions.

Rolmaster recommended torque

Nominal Size (in) or Basic Screw Dia.	Threads per inch	Recommended Tightening Torque
#8	32	45-50 in-lbs
#10	24	65-70 in-lbs
1/4	20	7.5-8.4 ft-lbs
5/16	18	16.5-17.5 ft-lbs
3/8	16	28-31 ft-lbs
7/16	14	45-49 ft-lbs
1/2	13	70-75 ft-lbs
9/16	12	105-110 ft-lbs
5/8	11	145-150 ft-lbs

* Rolmaster Standard hardware is Grade 5 zinc plated

Maintenance Procedures

Chains

Proper maintenance of chains includes correct lubrication, periodic inspection, and prompt adjustment of normal wear. We recommend using a high-quality lubricant to lubricate the chains (see page 6, Suggested Lubrication)

Coupling Chain

1. Removing a Chain

- Turn off and lock out the power supply to the conveyor.
- Begin by removing the top scallop guard restricting access to CDLR rollers.
- Remove coupling chain by sliding out the connecting clip (use pliers to assist) and backing plate. Then push/pull the master link out of the chain links and remove the chain from the rollers.
 - Pay attention to how the chain is routed, this is important for reinstalling the new chain correctly.
- Remove the chain from the rollers and sprockets.

2. Installing a Chain

- Reconnect the coupling chain to the new rollers. Feed the chain around both roller sprockets, connecting the ends of the chain on top.
- Connect the ends using the master link, backing plate, and connecting clip.

- Insert the master link through the end links on the chain. Then install the backing plate and connecting clip to fasten the chain together.
 - Pliers can be used to assist in situating the connecting clip.
- Ensure the chain is not too tight/loose.
- Verify all components are properly fastened and aligned.
- Replace the top scallop guard.

Drive Chain

1. Removing a Chain

- Turn off and lock out the power supply to the conveyor.
- Remove drive chain guard and top scallop guard if needed
- Release the tension on the drive chain by using the turnbuckle on the motor mount assembly.
- Start by sliding out the connecting clip (use pliers to assist) and backing plate, then push/pull the master link out of the chain links and remove the chain from the rollers.
 - Pay attention to how the chain is routed, this is important for reinstalling the new chain correctly.
- Remove the chain.

2. Installing a Chain

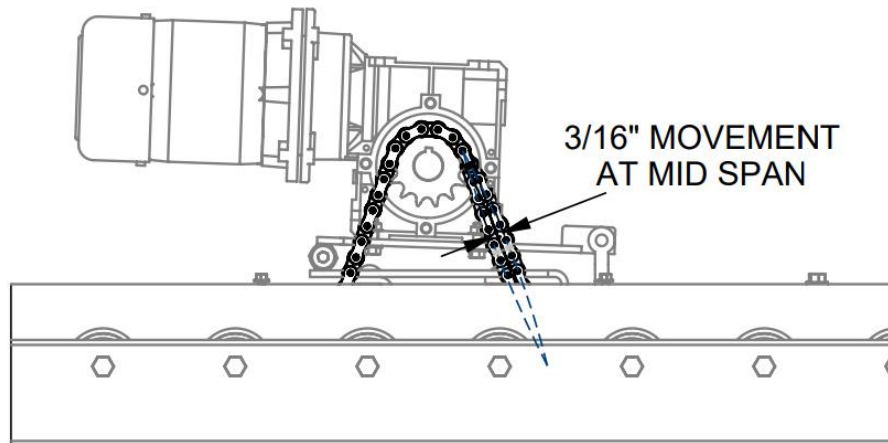
- Ensure there is no damage to sprockets and confirm alignment of drive sprocket to roller sprockets.
- Place the new drive chain onto the sprockets, and connect each end using the master link, backing plate, and connecting clip.
 - Insert the master link through the end links on the chain. Then install the backing plate and connecting clip to fasten the chain together.
 - Pliers can be used to assist in situating the connecting clip.
- Pay attention to how the chain is routed to ensure that two drive chains are never connected.
- Set chain tension. (see pg. 9)
- Verify the drive chain is correctly aligned.
- Replace drive chain guard and top scallop guard if needed.

Tensioning Drive Chain

1. Top Mounted Gearmotor

- Identify the jam nuts and clevis bolt located on the motor mount turnbuckle.
- Loosen the top outer jam nut and the two bottom jam nuts.
- To tighten the chain, turn the inner jam bolt on the top counterclockwise.
- To loosen the chain, turn the inner jam bolt on the bottom clockwise.
 - Note: Increasing the distance between the motor and conveyor tightens the chain tension, while decreasing the distance loosens it.
- Adjust until the slack is roughly 3/16" of movement at the midspan (2% slack), then tighten the outer jam nuts to secure the adjustments in place.

RECOMMENDED CHAIN TENSION



2. Bottom Mounted Gearmotor

- Identify the jam nuts and clevis bolt located on the motor mount turnbuckle.
- Begin by loosening the two top outer jam nut and the inner bottom jam nut.
- To tighten the chain, turn the inner jam bolt on the bottom counterclockwise.
- To loosen the chain, turn the inner jam bolt on the top clockwise.

- Note: Increasing the distance between the motor and conveyor tightens the chain tension, while decreasing the distance loosens it.
- Adjust until the slack is roughly 3/16" of movement at the midspan (2% slack), then tighten the outer jam nuts to secure the adjustments in place. (see previous page)

Rollers

For extended life, inspect rollers for wear and damage as per the maintenance and inspection schedule. Replace worn or damaged rollers immediately to ensure the longevity of your conveyor. Damaged rollers may cause excessive load on other rollers in the unit resulting in premature failure.

Spring Loaded CDLR Rollers

1. Removing a Spring Loaded CDLR Roller

- Turn off and lock out power to the conveyor.
- Begin by removing the top scallop guard restricting access to the rollers.
- Remove the chain.
 - Remove by sliding off the connecting clip (use pliers to assist) and backing plate. Then push/pull the master link out of the chain links and remove the chain from the rollers.
- Apply pressure to the spring-loaded end of the roller axle, feeding it through its hex hole.
- Lift this end of the roller out of the conveyor frame.
- Remove the entire roller by pulling the other end out of the frame.

2. Installing a Spring loaded CDLR Roller

- Install the new roller(s) into position on the conveyor frame, aligning with its hex holes and adjacent rollers.
- Apply pressure to the spring-loaded end and lower it into the corresponding hex holes.
- When contacting the frame, release tension.
 - If you encounter difficulty, a flat object can assist in lowering this end. Minor adjustments may be necessary to guide the axle into its hex hole

- Feed the chain around both roller sprockets, connecting the ends of the chain on top. Reconnect the coupling chain to the new rollers.
 - Insert the master link through the end links on the chain. Then install the backing plate and connecting clip to fasten the chain together. Pliers can be used to assist in situating the connecting clip.
- Reinstall top scallop guard and drive chain guard, ensuring all fasteners are tightened securely.
- Verify every component to ensure proper operation.

Cotter Pin CDLR Roller

1. Removing a Cotter Pin CDLR Roller

- Turn off and lock out power to the conveyor
- Begin by removing the top scallop guard restricting access to conveyor.
- Remove the chain.
 - Remove by sliding off the connecting clip (use pliers to assist) and backing plate. Then push/pull the master link out of the chain links and remove the chain from the rollers.
- With chains disconnected, remove the cotter pins located at each end of the axle.
- While supporting the bottom of the roller, slide the axle out of the roller's center.
- Remove the roller from between the frame.

2. Installing a Cotter Pin CDLR Roller

- Insert the axle into the roller, ensuring it is centered within the roller. (NOTE: positioning the roller vertically for axle installation may be easier in some cases)
- Lower one end of the axle into its designated hex hole in the frame.
- Push the inserted end further through the hex hole until the roller and axle are flush with the bearing tip on the opposite side. This will allow the opposite end to be lowered into the frame.
- Adjust the axle as needed to ensure it is properly seated through both hex holes in the frame.
- With the axle in place, insert cotter pins through the holes at each end of the axle.
- Bend the ends of the cotter pins to secure them in place.

- Reconnect the coupling chain to the new rollers. Feed the chain around both roller sprockets, connecting the ends of the chain on top.
 - Insert the master link through the end links on the chain. Then install the backing plate and connecting clip to fasten the chain together. Pliers can be used to assist in situating the connecting clip.
- Reinstall top scallop guards and drive chain guard, ensuring all fasteners are tightly secured.

****Contact our sales department for replacement rollers****

Sprockets

Roller Sprocket

If a roller sprocket requires replacing or maintenance, contact a Rolmaster sales representative for a replacement CDLR roller.

Drive Sprocket

1. Removing a Drive sprocket

- Turn off and lock out conveyor.
- Remove any guards restricting access to the drive sprocket.
- Remove the drive chain (refer to pg. 7: Chains).
- Loosen the set screws securing the sprocket.
- Remove the sprocket.

2. Installing a Drive Sprocket

- Slide the sprocket onto the shaft ensuring it is aligned with the keyway.
- Use a straight edge to ensure the sprocket is square.
- Tighten the set screws to secure the sprocket.
- Install the drive chain (refer to pg. 7: Chains).
- Reinstall any removed guards or covers.
- Restore power to the conveyor.

Section 3: Troubleshooting

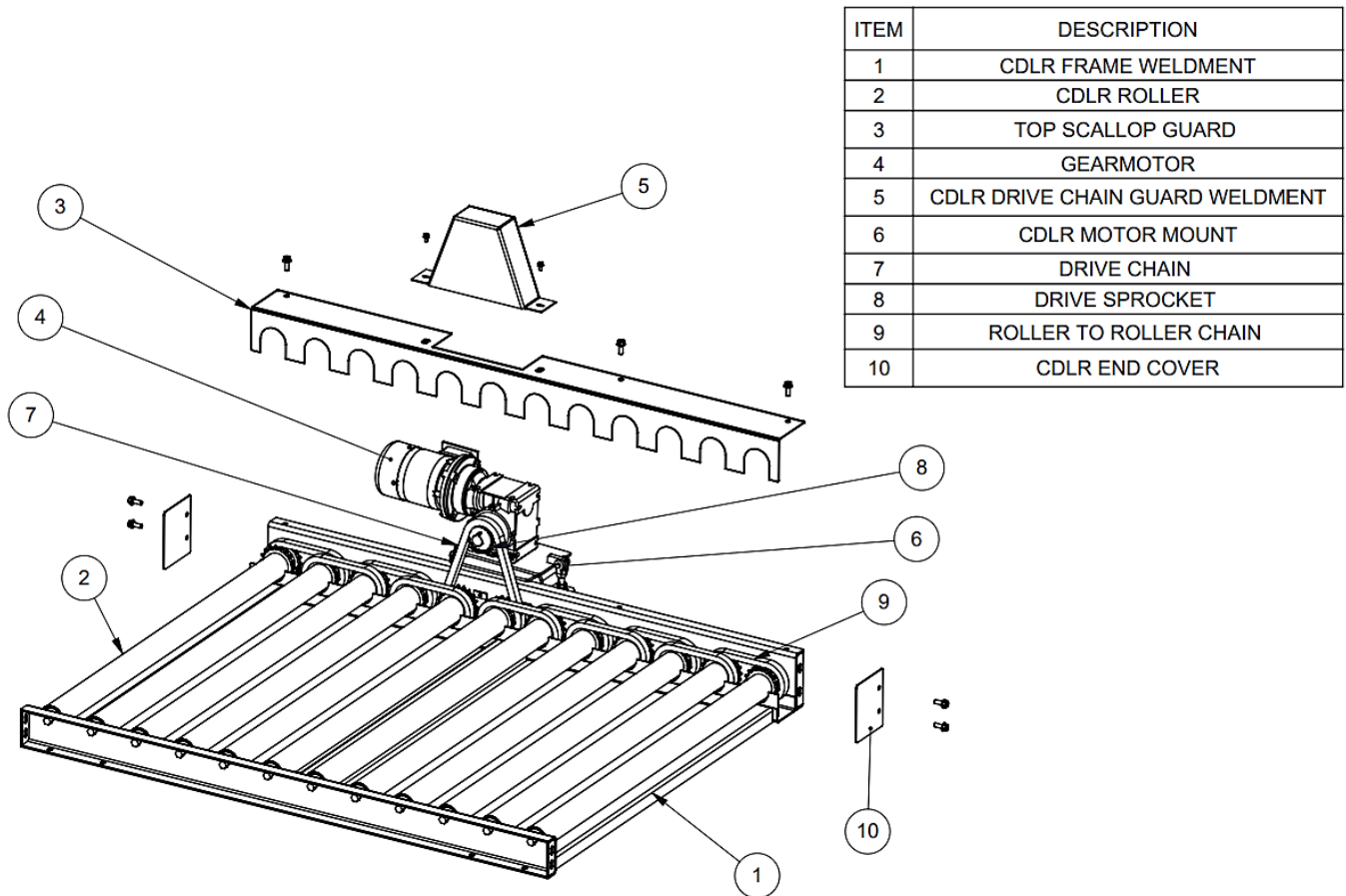
PROBLEM	POSSIBLE CAUSE	RECOMMENDED ACTION
Conveyor does not start up / motor stalls on startup	Physical obstruction	<ul style="list-style-type: none"> • Check for obstructions that may prevent the conveyor from starting
	Emergency stop button engaged	<ul style="list-style-type: none"> • Confirm the cause of the emergency stop. If the issue has been resolved, deactivate the Emergency Stop
	Motor is overloaded	<ul style="list-style-type: none"> • Contact a qualified technician or electrician • Check load on conveyor
Grinding / Loud noise	Lack of chain lubrication	<ul style="list-style-type: none"> • Lubricate coupling and drive chain
	Misalignment between drive sprocket and roller sprocket	<ul style="list-style-type: none"> • Realign drive sprocket
	Drive chain loose	<ul style="list-style-type: none"> • Increase chain tension or replace chain
	Defective CDLR roller bearing	<ul style="list-style-type: none"> • Replace roller
	Excessive wear on chain or sprockets	<ul style="list-style-type: none"> • Replace chains or sprockets
Motor Overheating	Excessive load	<ul style="list-style-type: none"> • Reduce the conveyor load • Upgrade to a higher-powered motor
	Inadequate ventilation or cooling	<ul style="list-style-type: none"> • Ensure motor has proper ventilation
Product does not progress on conveyor when rollers are turning	Lack of friction between product and roller	<ul style="list-style-type: none"> • Add urethane Sleeve to roller • Consider the use of slip sheet
Product falls/slides off the conveyor	Conveyor is not level	<ul style="list-style-type: none"> • Level the top of the rollers surface using conveyor supports
Product bouncing	Roller c-c (center to center) is too large	<ul style="list-style-type: none"> • Add rollers if possible. • Replace with a new conveyor at appropriate C-C • Consider the use of a slip sheet
Roller does not turn	Chain is broken	<ul style="list-style-type: none"> • Replace chain
	Roller seized	<ul style="list-style-type: none"> • Replace damaged roller(s)

*Some issues may not have a listed solution. For unresolved problems, please consult a maintenance professional or contact a Rolmaster sales representative.

Section 4: Replacement Parts

Replacement Parts

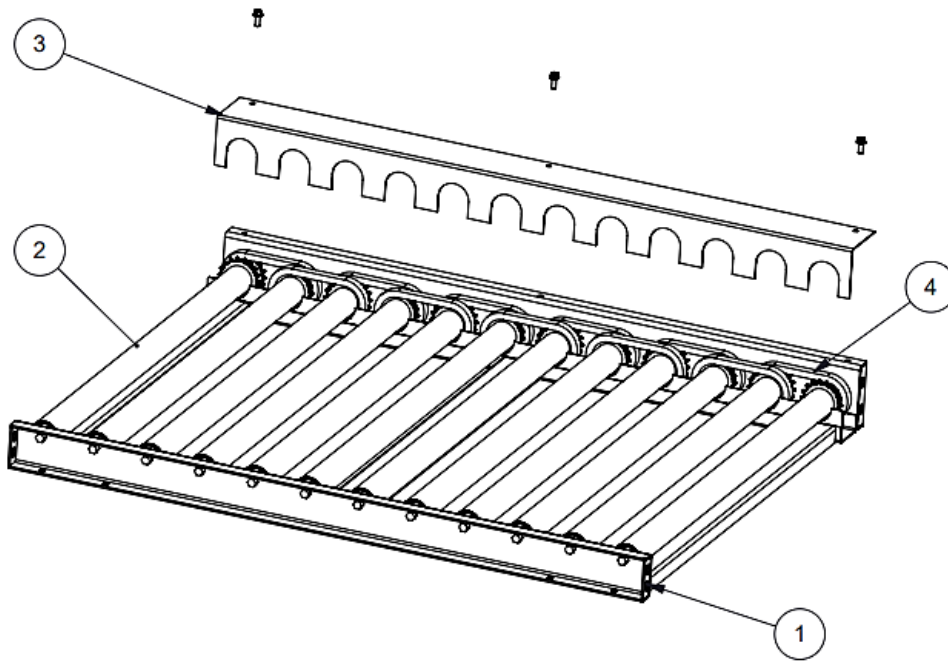
Straight Drive Section



ITEM	DESCRIPTION
1	CDLR FRAME WELDMENT
2	CDLR ROLLER
3	TOP SCALLOP GUARD
4	GEARMOTOR
5	CDLR DRIVE CHAIN GUARD WELDMENT
6	CDLR MOTOR MOUNT
7	DRIVE CHAIN
8	DRIVE SPROCKET
9	ROLLER TO ROLLER CHAIN
10	CDLR END COVER

Straight Intermediate Section

ITEM	DESCRIPTION
1	CDLR FRAME WELDMENT
2	CDLR ROLLER
3	TOP SCALLOP GUARD
4	ROLLER TO ROLLER CHAIN



Ordering Replacement Parts

When ordering replacement parts please reach out to our sales team directly. To streamline the ordering process, ensure you have/know the project number. This will allow our sales team to quickly find and identify the required