

LEWCO Conveyors

by **LEWCO, Inc.**

Installation, Operation & Maintenance Manual

Model HG Hinged Gate
Model HGS Hinged Gate Spring Assisted

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Contents

Contents 1

Contents 2

Safety 3

Hazard Labels 3

Safety Considerations..... 3

 Guards and Guarding..... 3

 Operation & Use..... 4

 Maintenance & Troubleshooting 4

 Before Using the Conveyor 4

Support Installation 5

Conveyor Set Up..... 5

Maintenance 6

 Maintenance Intervals 6

 Maintenance Procedures 6

 Bearings 6

 Conveyor Bed and Supports 6

 Cleaning 6

Troubleshooting 6

Replacement Parts 7

How to Order 7

Safety

Hazard Labels

- To reduce the possibility of injury to personnel operating or in the vicinity of LEWCO conveying equipment, warning signs are posted at potential hazard points on the equipment. Examine this equipment and become familiar with potential hazard areas.
- Instruct all personnel to heed these potential hazard areas.
- The following illustrations represent the typical hazard signs found at hazardous areas on LEWCO Conveyors.



Safety Considerations

Guards and Guarding

All LEWCO standard conveyor equipment is equipped with standard machine guarding methods. It is the responsibility of the owner, however, to ensure that proper guarding methods are present to comply with OSHA Standards – 29 CFR – 1910.212 Machinery and Machine Guarding. Special consideration should be given to areas where multiple pieces of equipment interface.

1910.212(a)

Machine guarding.

1910.212(a)(1)

Types of guarding. One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are barrier guards, two-hand tripping devices, electronic safety devices, etc.

1910.212(a)(2)

General requirements for machine guards. Guards shall be affixed to the machine where possible and secured elsewhere if for any reason attachment to the machine is not possible. The guard shall be such that it does not offer an accident hazard in itself.

1910.212(a)(3)

Point of operation guarding.

1910.212(a)(3)(i)

Point of operation is the area on a machine where work is actually performed upon the material being processed.

1910.212(a)(3)(ii)

The point of operation of machines whose operation exposes an employee to injury, shall be guarded. The guarding device shall be in conformity with any appropriate standards thereof, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.

1910.212(a)(3)(iii)

Special hand tools for placing and removing material shall be such as to permit easy handling of material without the operator placing a hand in the danger zone. Such tools shall not be in lieu of other guarding required by this section, but can only be used to supplement protection provided.

Operation & Use

- Only experienced and trained personnel should operate the conveyor.
- Personnel should be trained in operation under normal and emergency conditions.
- Do not wear loose clothing while operating the conveyor. Long hair and jewelry are potential hazards of entanglement.
- Watch for hazardous conditions—sharp edges and protruding parts, etc.
- Use the conveyor to transport only material it is capable of being handled safely.
- Keep area around loading and unloading points free from obstructions.
- Prohibit personnel from riding on the conveyor.
- Alert personnel in the area prior to loading conveyor.
- Check tracking to make sure product is running straight on the conveyor.

Maintenance & Troubleshooting

- Only experienced and trained personnel should perform maintenance, including lubrication and adjustments.
- A maintenance program should be established to insure that all conveyor components are maintained in a condition which does not constitute a hazard to personnel.
- Do not perform any work on the conveyor while it is running unless the nature of the maintenance absolutely requires operation of the conveyor. If the conveyor must be operated to perform maintenance procedures, allow only experienced conveyor maintenance personnel to do the work.
- Do not wear loose clothing while performing maintenance on an operating conveyor.
- Use extreme care when using mechanical aids such as hoists, cables, and other equipment to perform maintenance. They can cause damage to the conveyor and subsequently cause a dangerous condition when the conveyor is used.
- Poor housekeeping practices cause accidents and inefficient conveyor operation. Keep area and conveyor clean from spilled lubricants and other materials. Make sure no material is caught or lodged in the movable parts of the conveyor unless necessary during maintenance.

Before Using the Conveyor

- Inspect the conveyor and make certain all safety devices and guards are in place.
- Make sure all tools and/or maintenance equipment have been removed from the conveyor area.
- Make sure no material is caught or lodged in the movable parts of the conveyor.
- Make sure all personnel are clear of the conveyor and are alerted that the conveyor is about to be used.
- Allow only authorized personnel to check the conveyor following maintenance.

Support Installation

- Bolts for attaching the support to the bed section are shipped in a bag attached to the supports or in a separate box.
- Set the support height. Subtract frame height dimension from desired conveying surface. See Figure 2.1. Adjust the support to this dimension by sliding inner and outer legs. Tighten leg bolts to maintain the set height.
- The support bolts to the hinge gate pivot plates, which bolt to the fixed conveyor frame.

Conveyor Set Up

- Refer to manuals for fixed conveyor for instructions on locating and installing the fixed conveyor sections.
- Identify the fixed section to which the hinge gate will be attached.
- Bolt the support to the hinge gate pivot plates
- Bolt the hinge gate to the fixed conveyor section.
- Conveyor sections have a section number label, which includes the Sales Order number, Line Item number, and Section Assembly number (last two digits).
- Check that conveyor is level across both width and length of conveyor. Adjust supports if necessary.
- Check the gate bed section for square. See Figure 3.1. Use a string stretched from opposing corners at edge of bed to

aid in straightening conveyor. Ensure that both dimensions are the same. Adjust or shim supports and mounting points as required. Both sides of the conveyor must be in the same plane (bed not twisted).

- Tighten all butt couplings and support mounting bolts and lag conveyor to floor.

Spring Tension Adjustment (HGS models)

- Spring-assist hinge gate units are shipped assembled but without the springs tensioned.
- Nuts 3 and 4 (see Figure 3.2) should remain tight at all times.
- To increase spring tension:
 - a. loosen nut 2
 - b. tighten nut 1 against spring until desired lifting force is achieved
 - c. tighten nut 2 against nut 1 to lock tension setting
- To decrease spring tension:
 - a. loosen nut 2
 - b. loosen nut 1 away from spring until desired lifting force is achieved
 - c. tighten nut 2 against nut 1 to lock tension setting
- Do not exceed 7.5" (as shown in Figure 3.2) when adjusting spring tension. This could create a dangerous condition.

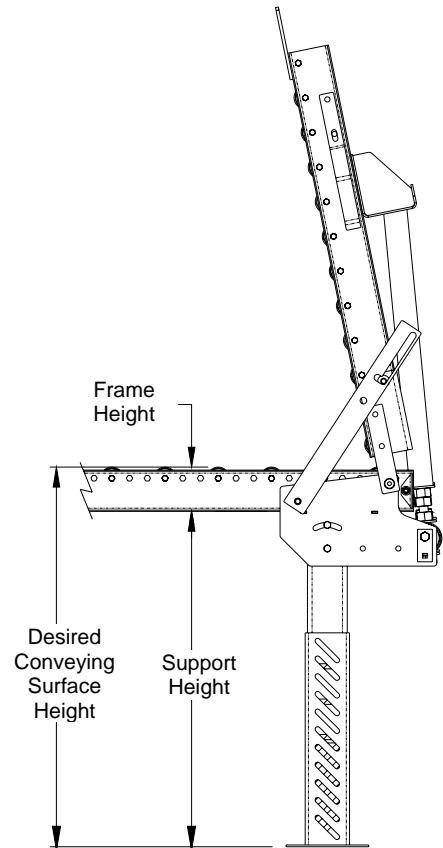


Figure 2.1 – Support Height Adjustment

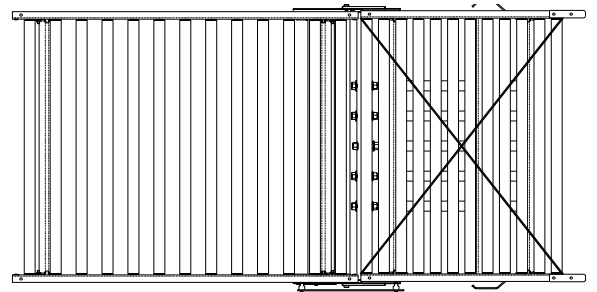


Figure 3.1 – Check the bed for squareness

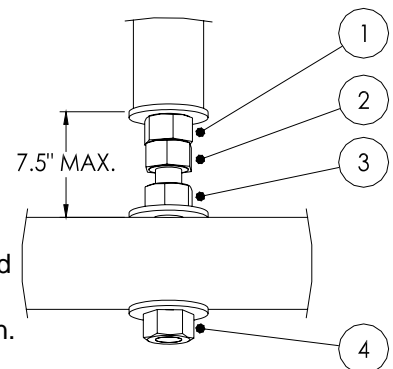


Figure 3.2 – Spring Tension Adjustment

Maintenance

Effective operation and useful life of any equipment is directly related to the care and service it receives. A pre-determined maintenance schedule, including inspection, lubrication and cleaning should be established for each conveyor. Establish and maintain "Log Sheets" on each conveyor to record date and results of inspections, lubrication, and parts replacements. General inspections of all conveyors should be performed at regular intervals depending on use and service conditions.

Maintenance Intervals

The following chart gives a brief overview of what maintenance should be performed on a periodic basis.

COMPONENT	ACTION	SCHEDULE		
		WEEKLY	MONTHLY	QUARTERLY
SPRING ASSIST	Check spring tension.			✓
	Check nuts 3 & 4 (see Figure 3.2)			✓
BEARINGS (Rollers)	Check noise.		✓	
STRUCTURAL	General check: Loose bolts etc. tightened.		✓	

Maintenance Procedures

Bearings

- Check rollers; all rollers must rotate freely. If a pulley does not turn freely check for dirt accumulation in bearing area and clean.
- Lubricate all flange type bearings that have grease fittings. Use NLGI Grade 2 Lithium base grease, Shell Alvania EP2, or equal.
- Listen for bearings with excessive noise. Replace as required.

Conveyor Bed and Supports

- Check conveyor frame, splices, supports, and bearings for loose or missing hardware. Replace hardware as required.

Cleaning

- Periodically remove any buildup that may accumulate on roller tubes.
- Clean bearing area and keep free of all debris.

Troubleshooting

TROUBLE	CAUSE	SOLUTION
Spring Assist Lift Gate is difficult to open.	Spring assist out of adjustment.	Tighten adjustment nuts against springs.
	Framework is damaged.	Check for damaged or bent framework.
Rollers are not turning.	Bearing failure.	Replace roller.
	Damaged roller.	Replace roller.
	Debris in bearing area.	Clean bearing area and keep free of all debris.

Replacement Parts

How to Order

Provide the MODEL NUMBER, and SERIAL NUMBER [located on unit label], when ordering parts for your LEWCO Conveyor. There is one unit label on each section of conveyor.

To order parts please contact your local LEWCO distributor. If unable to contact your local distributor or the original distributor that supplied the equipment, please contact LEWCO, Inc. by phone at 419-625-4014, or Fax 419-625-1247. Ask for the conveyor sales parts department.

LEWCO, Inc. Serial No.: 026563-001

Model No.: HGS2511-14-3-36-F97-A50-V98-P94

Section No.: 026563-001-01

Figure 7.1 Location of Serial Number, Model Number, and Section Number on Typical Unit Label

Standard Spare Part Listings

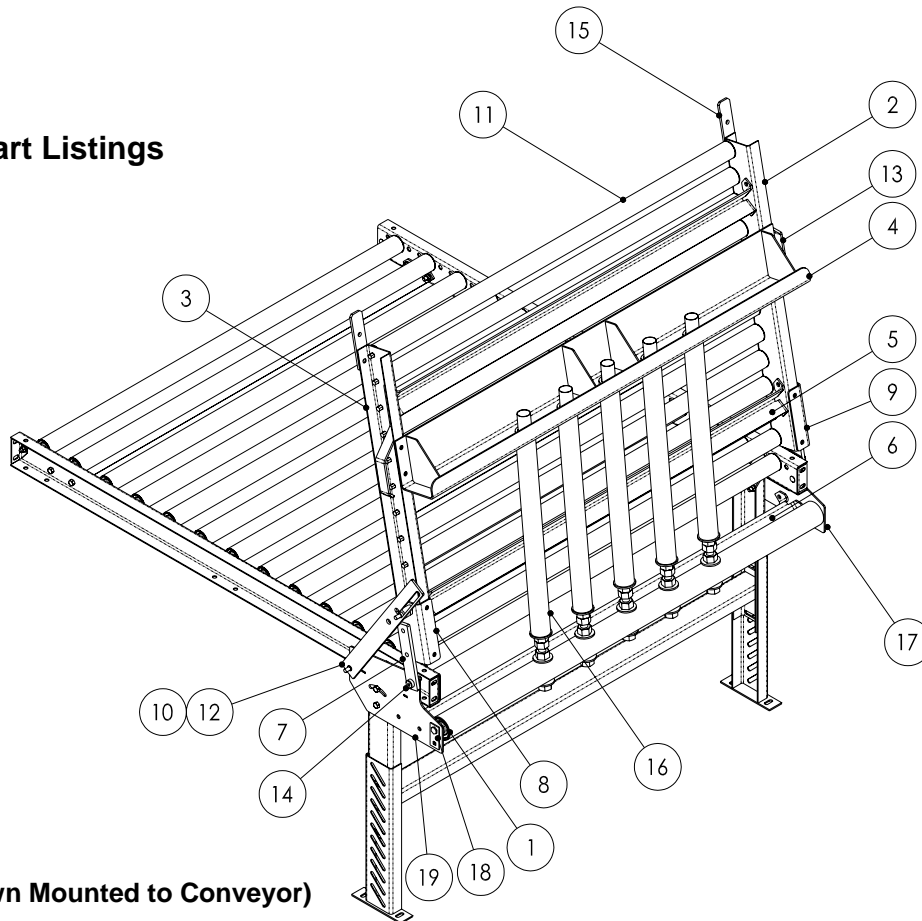
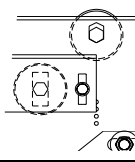


Figure 8.1 HGS (Shown Mounted to Conveyor)



ITEM	PART NO.	DESCRIPTION	MODEL
1	CVS1676-BRG-LG	ROLLER, R2607, BEARING	HS1909,1912,1916,2511
2	CVP0750-RCC-LG	RAIL, CHANNEL, HG1900, LH, 3.5X1.5	HS1909,1912,1916
	CVP0881-RCC-LG	RAIL, CHANNEL, HG2511, LH, 4X1.5	HS2511
3	CVP0751-RCC-LG	RAIL, CHANNEL, HG1900, RH, 3.5X1.5	HS1909,1912,1916
	CVP0883-RCC-LG	RAIL, CHANNEL, HG2511, RH, 4X1.5	HS2511
4	CVS1740-LG	SPRING GUIDE WELDMENT, HINGE GATE	HS1909,1912,1916,2511
5	CVP0127-LG	CROSSTIE, ANGLE, 35 TIE	HS1909,1912,1916,2511
6	CVP0127-LG	CROSSTIE, ANGLE, 35 TIE	HS1909,1912,1916,2511
7	CVP0754	HINGE ARM, HG1900, 3/8"X1-1/2"	HS1909,1912,1916,2511
8	CVP0768	HINGE MOUNT, RIGHT HAND RAIL, HG19	HS1909,1912,1916,2511
9	CVP0767	HINGE MOUNT, LEFT HAND RAIL, HG19	HS1909,1912,1916,2511
10	CVP0753	LOCKING ARM, HG1900, 1/4"X2"	HS1909,1912,1916,2511
11	CVS0003-BRG-LG-ROLCOV	ROLLER, R1909, BEARING, ROLLER COVER	HS1909
	CVS0003-BRG-LG-ROLCOV	ROLLER, R1916, BEARING, ROLLER COVER	HS1916
	CVS0003-BRG-LG-ROLCOV	ROLLER, R1912, BEARING, ROLLER COVER	HS1912
	CVS0005-BRG-LG-ROLCOV	ROLLER, 2511, BEARING, ROLLER COVER	HS2511
12	CVP1601	SPACER, LOCKING ARM, HINGE GATE	HS1909,1912,1916,2511
13	CVP0752	HANDLE, HINGE GATE LIFTING, 3/8"	HS1909,1912,1916,2511
14	PCP0579-LG	SCREW, SOCKET HEAD SHOULDER, 5/8 DIA	HS1909,1912,1916,2511
15	CVP0755	RESTING PAD, HG1900, 3/8"X1-1/2"	HS1909,1912,1916,2511
16	CVS1702	SPRING, ASSY, HINGE GATE	HS1909,1912,1916,2511
17	CVS1738	HINGE MOUNT, LOWER WLDM'T, LH HG19	HS1909,1912,1916,2511
18	CVS1737	AXLE, STUB WLEDMENT, 11/16 HEX, HGATE	HS1909,1912,1916,2511
19	CVS1739	HINGE MOUNT, LOWER WLDM'T, RH HG19	HS1909,1912,1916,2511

ABBREVIATION KEY

ABBREVIATION	DESCRIPTION
BF	BETWEEN FRAME
LG	LENGTH
BRG	BEARING
OAW	OVERALL WIDTH
SPKT	SPROCKET STYLE
TH	NO. OF TEETH
ROLCOV	ROLLER COVER
PTCH	NO. OF PITCHES
CASE	REDUCER CASE SIZE
NS	NO. OF STRANDS
RATIO	REDUCTION RATIO
OS	OUTPUT SHAFT ASSY
MOUNT	MOTOR MOUNT SIZE
TH	NO. OF TEETH
GC	GUARD CENTER TO CENTER
BORE	BORE SIZE
CC	CHAIN CENTER
BW	BELT WIDTH
RCC	ROLLER CENTER TO CENTER