



EVO[®] ***Return Roller***

[Go to EVO[®] Return Roller web page](#)



Operator's Manual
M3796

Important

MARTIN ENGINEERING HEREBY DISCLAIMS ANY LIABILITY FOR: DAMAGE DUE TO CONTAMINATION OF THE MATERIAL; USER'S FAILURE TO INSPECT, MAINTAIN AND TAKE REASONABLE CARE OF THE EQUIPMENT; INJURIES OR DAMAGE RESULTING FROM USE OR APPLICATION OF THIS PRODUCT CONTRARY TO INSTRUCTIONS AND SPECIFICATIONS CONTAINED HEREIN. MARTIN ENGINEERING'S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF EQUIPMENT SHOWN TO BE DEFECTIVE.

Observe all safety rules given herein along with owner and Government standards and regulations. Know and understand lockout/tagout procedures as defined by American National Standards Institute (ANSI) z244.1-1982, *American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements* and Occupational Safety and Health Administration (OSHA) Federal Register, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout); Final Rule*.

The following symbols may be used in this manual:



Danger: Immediate hazards that will result in severe personal injury or death.



Warning: Hazards or unsafe practices that could result in personal injury.



Caution: Hazards or unsafe practices that could result in product or property damages.



Important: Instructions that must be followed to ensure proper installation/operation of equipment.



Note: General statements to assist the reader.

Table of Contents

Section	Page
List of Figures and Tables	ii
Introduction	1
General	1
References	1
Materials required	1
Safety	1
Before Installing Return Roller	3
Installing Return Roller	4
Installing EVO® Return Roller	4
After Installing Return Roller	7
Weekly Maintenance	8
Part Numbers	9

List of Figures

Figure	Title	Page
1	EVO® Return Roller, UCRR-007000-XXX	10
2	Conveyor Products Warning Label, P/N 23395	13
3	Pinch Point Warning Label, P/N 30528	13
4	EVO® Return Roller Dimensions	14

List of Tables

Table	Title	Page
I	Part Numbers for EVO® Return Roller	12

Introduction

General

The EVO® Return Roller is a pivoting track-mounted return idler that allows for safe, quick, and simple one-sided servicability and roll replacement. The track-mounted design reduces the risk of injury and allows replacement of the roll in a matter of seconds.

References

The following documents are referenced in this manual:

- American National Standards Institute (ANSI) z244.1-1982, *American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements*, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
- Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout); Final Rule*, Department of Labor, Occupational Safety and Health Administration (OSHA), 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, IL 60604.

Materials required

Only standard hand tools are required to install and service this equipment.

Safety

All safety rules defined in the above documents and all owner/employer safety rules must be strictly followed when working on the belt cleaner.



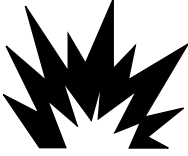
⚠ DANGER

Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Your body or clothing can get caught and you can be pulled into the conveyor, resulting in severe injury or death.



⚠ DANGER

Before installing, servicing, or adjusting the conveyor equipment, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.



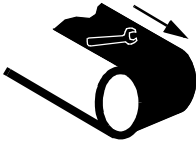
⚠ DANGER

If this equipment will be installed in an enclosed area, test the gas level or dust content before using a cutting torch or welding. Using a torch or welding in an area with gas or dust may cause an explosion resulting in serious injury or death.



⚠ WARNING

Before using a cutting torch or welding the chute wall, cover the conveyor belt with a fire retardant cover. Failure to do so can allow the belt to catch fire.



⚠ WARNING

Remove all tools from the installation area and conveyor belt before turning on the conveyor. Failure to do so can cause serious injury to personnel or damage to the belt and conveyor.

Before Installing Return Roller

IMPORTANT

The delivery service is responsible for damage occurring in transit. Martin Engineering CANNOT enter claims for damages. Contact your transportation agent for more information.

1. Inspect shipping container for damage. Report damage to delivery service immediately and fill out delivery service's claim form. Keep any damaged goods subject to examination.
2. Remove EVO® Return Roller assembly from shipping container.
3. If anything is missing contact Martin Engineering or a representative.



WARNING

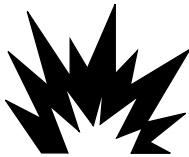
Before installing equipment, turn off and lock out/ tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

4. Turn off and lock out/tag out energy source according to ANSI standards (see "References").

DANGER

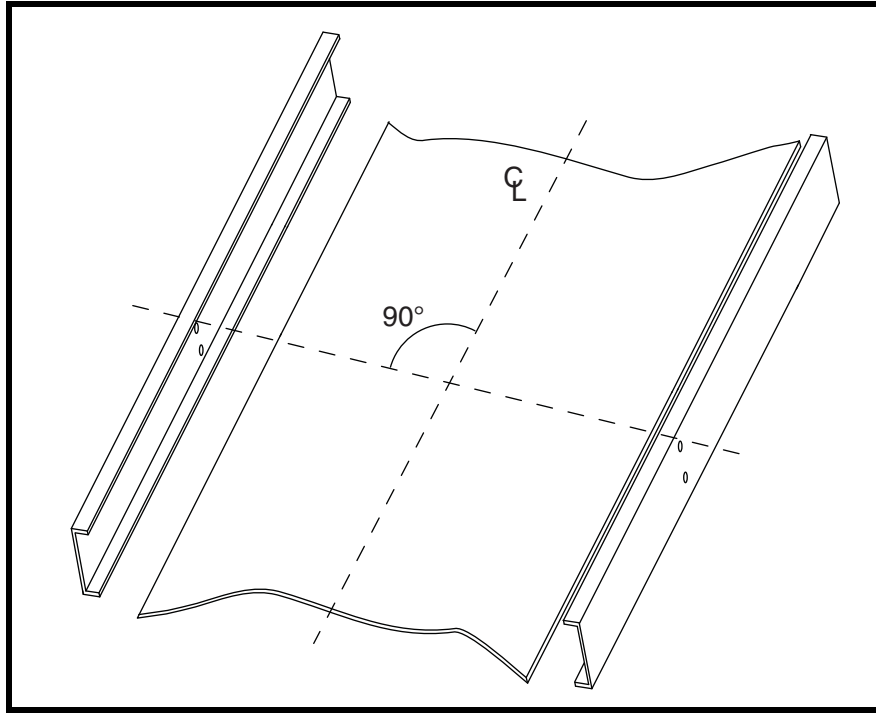
If this equipment will be installed in an enclosed area, test the gas level or dust content before using a cutting torch or welding. Using a torch or welding in an area with gas or dust may cause an explosion resulting in serious injury or death.

5. If using a cutting torch or welding, test atmosphere for gas level or dust content. Cover conveyor belt with fire retardant cover.



Installing Return Roller

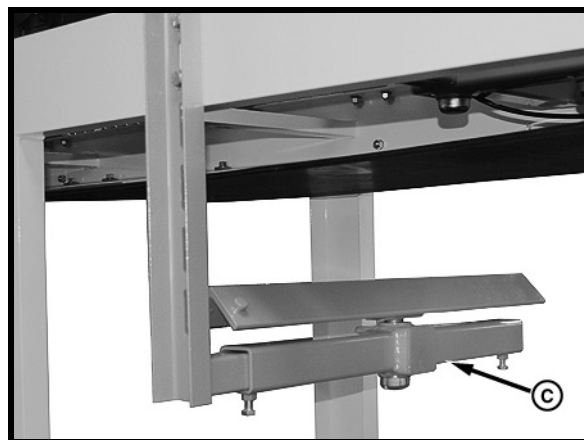
Installing EVO[®] Return Roller



1. Remove existing return idler and mounting brackets.
2. Mark holes for hanger tubes opposite of each other and perpendicular to belt.
3. Drill or torch holes into stringer.



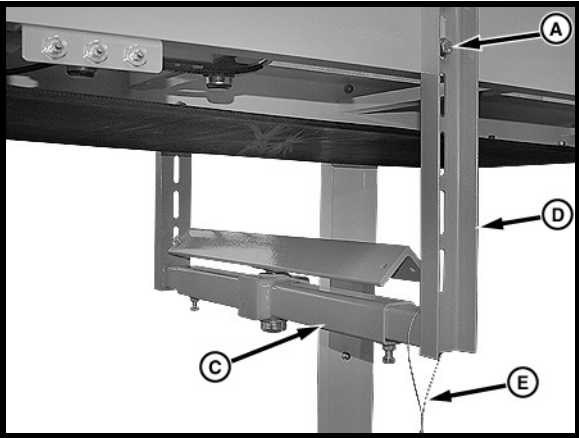
A. Cap Screw, Washers, and Nut (2 used)



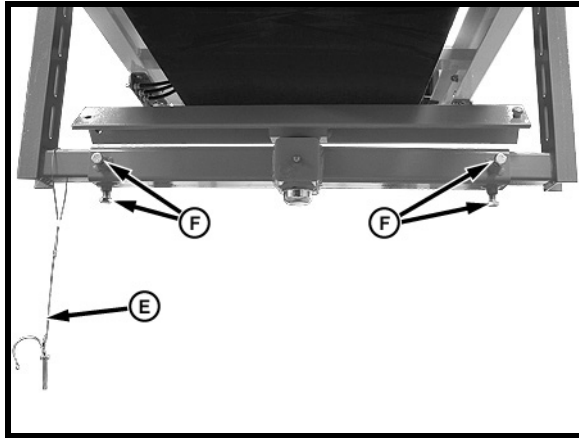
B. Hanger Tube

C. Pivoting Weldment

4. Install hanger tube (B) on far side stringer using cap screws, washers, and nuts (A), but do not tighten.
5. Slide pivoting weldment (C) onto hanger tube (B).

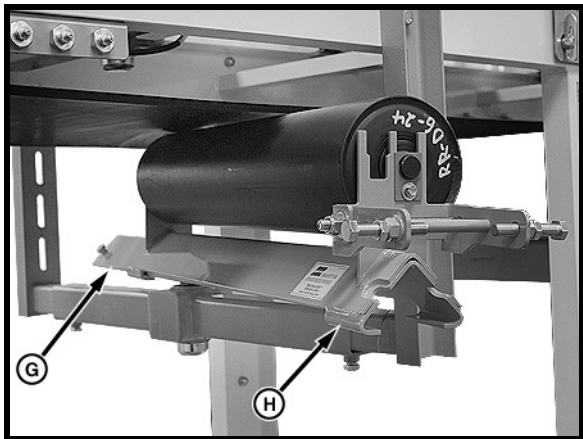


A. Cap Screw, Washers, and Nut (2 used)
C. Pivoting Weldment
D. Hanger Tube

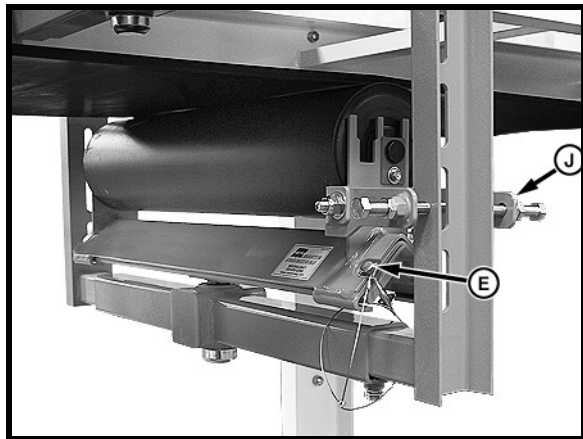


E. Snap Lock Pin and Lanyard
F. Set Screws (4 used)

6. Install lanyard and snap lock pin (E) on hanger tube (D).
7. Slide hanger tube (D) into pivoting weldment (C).
8. Attach hanger tube (D) to stringer using cap screws, washers, and nuts (A), but do not tighten.
9. Center pivoting weldment (C) on belt and tighten set screws (F).



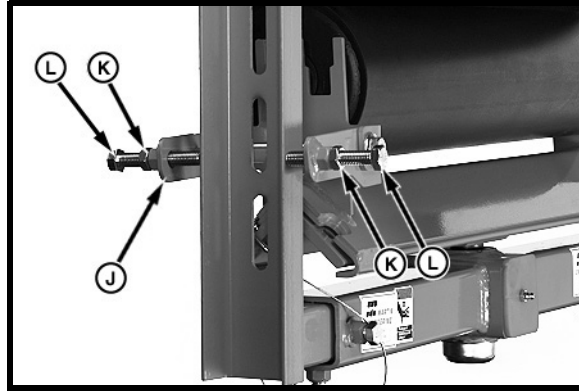
G. Rotating Weldment



H. Roll Assembly

J. Handle

10. Slide roll assembly (H) on rotating weldment (G). Make sure handle (J) is located on operator side of conveyor.
11. Insert snap lock pin (E) into rotating weldment to secure roll assembly.
12. Rotate roll assembly into position and lower handle (J).



J. Handle

K. Nut (2 used)

L. Cap Screw (2 used)

NOTE

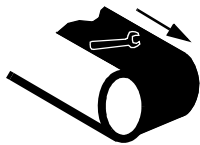
Do not tighten cap screws (L) into hanger bar. Handle (J) must be able to be raised when replacing roll.

13. Loosen nuts (K) and adjust cap screws (L) to hold roll assembly perpendicular to belt.
14. Tighten nuts (K).
15. Raise entire assembly up into belt 1 inch and tighten all cap screws and nuts.

After Installing Return Roller



1. Thoroughly wipe chute wall clean above tensioner.
2. Place Conveyor Products Warning Label (P/N 23395) on outside chute wall visible to belt cleaner operator.



⚠ WARNING

Failure to remove tools from installation area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.



⚠ DANGER

Do not touch or go near conveyor belt or conveyor accessories when conveyor belt is running. Body or clothing can get caught and pull body into conveyor belt, causing severe injury or death.

3. Turn on conveyor belt for 1 hour, then turn off.



⚠ DANGER

Before installing, servicing, or adjusting the conveyor equipment, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

4. Make sure all fasteners are tight. Tighten if necessary.

Weekly Maintenance

IMPORTANT

Read entire section before beginning work.

NOTE

Maintenance inspection should be performed no less than weekly. Some applications may require more frequent maintenance inspections.



⚠ DANGER

Before installing, servicing, or adjusting the conveyor equipment, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

1. Remove any material from return roller.
2. Make sure all fasteners are tight. Tighten if necessary.
3. Lubricate pivot bearings as necessary.
4. Wipe all labels clean. If labels are not readable, contact Martin Engineering or a representative for replacements.
5. Remove equipment from service if there is any indication it is not functioning properly. Call Martin Engineering or a representative for assistance. Do NOT return equipment to operation until the cause of the problem has been identified and corrected.

⚠ WARNING

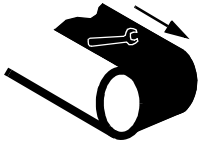
Failure to remove tools from maintenance area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

6. Remove all tools from maintenance area.

⚠ DANGER

Do not touch or go near conveyor belt or conveyor accessories when conveyor belt is running. Body or clothing can get caught and pull body into conveyor belt, causing severe injury or death.

7. Start conveyor belt.



Part Numbers

This section provides part numbers for the EVO[®] Return Roller Assemblies. Please reference part numbers when ordering parts.

EVO[®] Return Roller Assembly

EVO[®] Return Roll Assembly: 24 to 72 in. (600 to 1800-mm) belts:
P/N UCRR-007000-XXX.

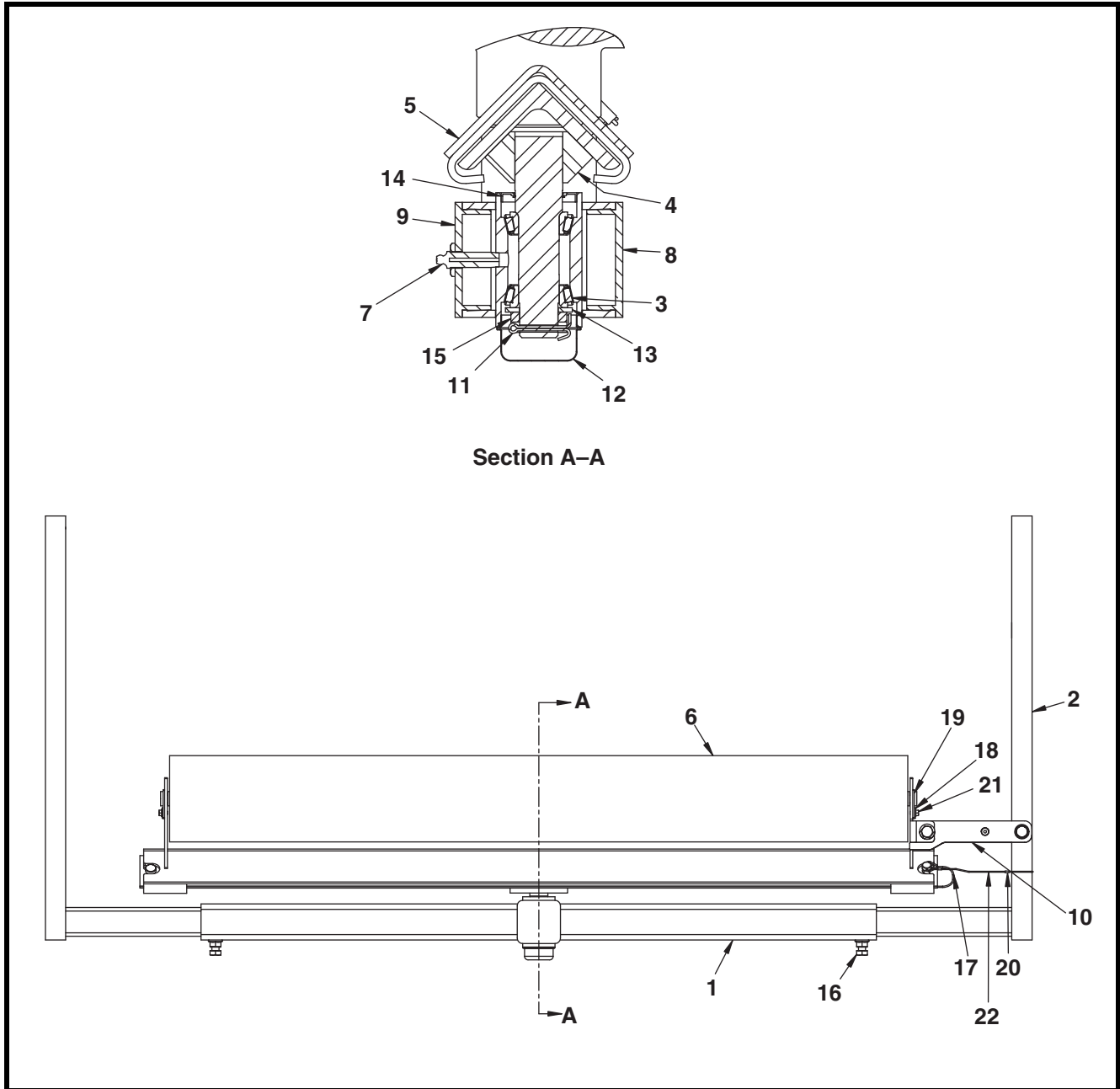


Figure 1. EVO[®] Return Roller, P/N UCRR-007000-XXX* (Sheet 1 of 2)

*First XX indicates belt width in inches; Next X indicates stringer type: E = EVO[®] Stringer, S = Standard Stringer;
Add an F to end of part number for frame only (no roller included).

Item	Description	Part No.	Qty
1	Pivoting Weldment	UCRR-007030-XX**	1
2	Telescoping Tube Weldment	Table I	2
3	Bearing Roller	38505-01	2
4	Rotation Weldment	UCRR-007020-XX**	1
5	Sliding Weldment	UCRR-007010-XX**	1
6	Roll	RR-D6-XX**	1
7	Extended Length Grease Fitting 1/8 NPT	38517	1
8	Plug 3 x 3	37302	1
9	Plug 3 x 3 with Hole	37302-2	1
10	Locking Kit	Table I	1
11	Pin Cotter 1/8 x 1-3/4 ZP	14210	1
12	Cap Dust	38515-S	1
13	Washer Flat O.D. 1.75 I.D. 1.015	38513	1
14	Seal Bearing	38516-S	1
15	Nut Hex Slotted	38514	1
16	Screw HHC 1/2-13NC x 1 ZP	13842	4
17	Pin Snap Lock 3/8 x 1-3/4 ZP	37126	1
18	Washer Flat 1/4 Wide ZP	15073	2
19	Tie Tab	TMI-TT-100P	2
20	Clip Cable	28112	2
21	Screw Tapping HWH 1/4-20NC x 3/8 ZP	38608	2
22	Cable 1/16 Galvanized	102249	2
23 (NS)	Label Kit	UCRR-007070	1
24 (NS)	Hardware Kit	Table I	1
25 (NS)	Operator's Manual	M3796	1

**XX indicates belt width in inches.

Figure 1. EVO[®] Return Roller, P/N UCRR-007000-XXX (Sheet 2 of 2)

Table I. Part Numbers for EVO® Return Roller

Part Number	Item 2
UCRR-007000-24X	34743-03
UCRR-007000-36X	34743-01
UCRR-007000-42X	34743-01
UCRR-007000-48X	34743-01
UCRR-007000-54X	34743-01
UCRR-007000-60X	34743-02
UCRR-007000-72X	34743-02

Part Number	Item 11	Item 25
UCRR-007000-XXE	UCRR-007060-E	UCRR-007050-E
UCRR-007000-XXS	UCRR-007060-S	UCRR-007050-S

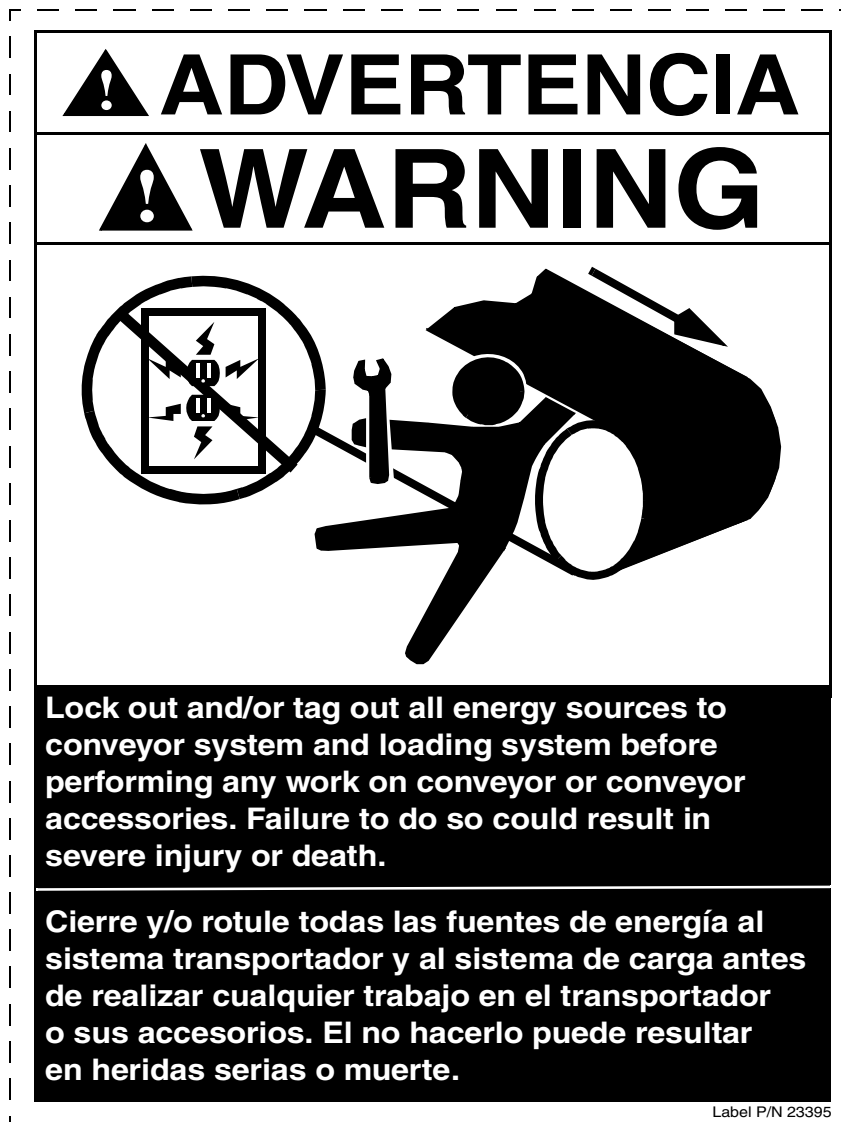


Figure 2. Conveyor Products Warning Label, P/N 23395



Figure 3. Pinch Point Warning Label, P/N 30528

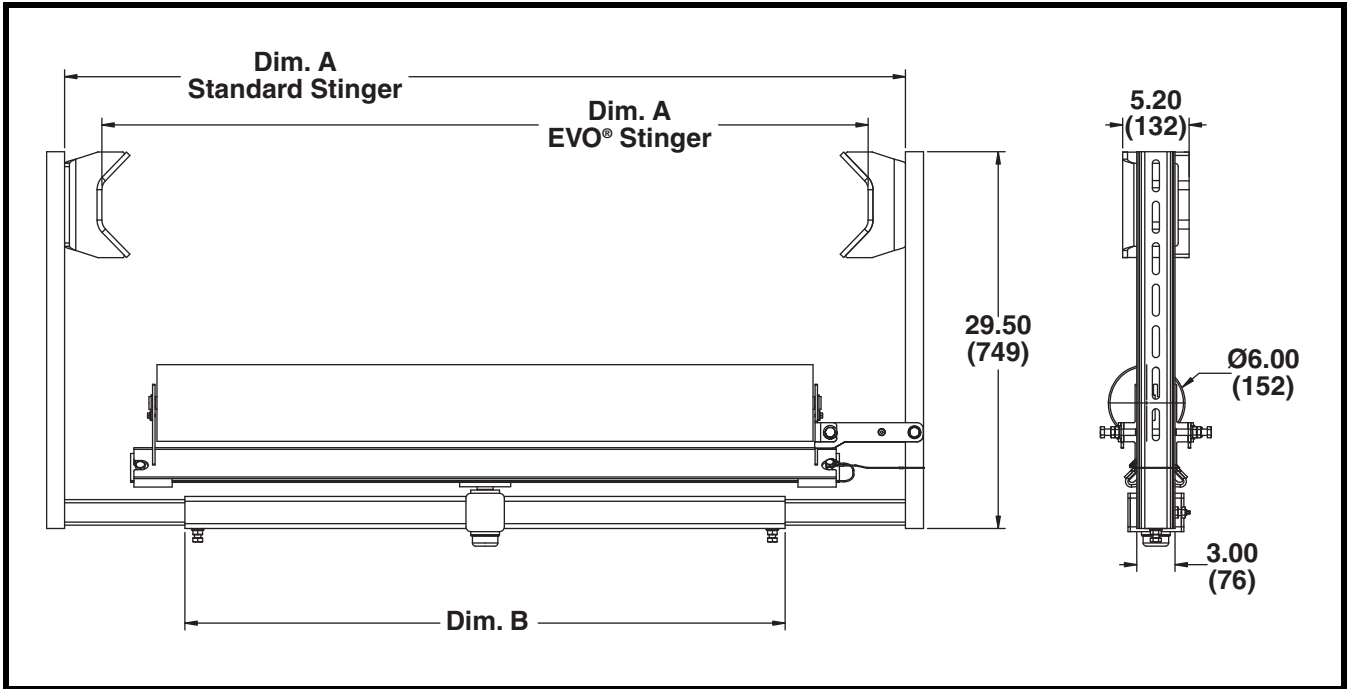
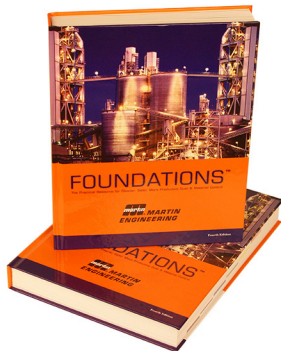


Figure 4. EVO® Return Roller Dimensions

Part Number	Dim. A in. (mm)	Dim. B in. (mm)
UCRR-007000-24X	36 (914)	29 (737)
UCRR-007000-36X	48 (1219)	37 (940)
UCRR-007000-42X	54 (1372)	43 (1092)
UCRR-007000-48X	60 (1524)	47 (1194)
UCRR-007000-54X	66 (1676)	55 (1397)
UCRR-007000-60X	72 (1829)	51 (1295)
UCRR-007000-72X	84 (2134)	61 (1549)

Any product, process, or technology described here may be the subject of intellectual property rights reserved by Martin Engineering Company. Trademarks or service marks designated with the ® symbol are registered with the U.S. Patent and Trademark Office and may be proprietary in one or more countries or regions. Other trademarks and service marks belonging to Martin Engineering Company in the United States and/or other countries or regions may be designated with the “TM” and “SM” symbols. Brands, trademarks, and names of other parties, who may or may not be affiliated with, connected to, or endorsed by Martin Engineering Company, are identified wherever possible. Additional information regarding Martin Engineering Company’s intellectual property can be obtained at www.martin-eng.com/trademarks.

Problem Solved™ ***GUARANTEED!***



For nearly 20 years, Martin Engineering's Foundations™ Books have taught industry personnel to operate and maintain clean and safe belt conveyors. The Foundations™ Book, fourth edition, focuses on improving belt conveyors by controlling fugitive material. "The Practical Resource for Total Dust and Material Control," is a 576-page hard cover volume that provides information of value to industries where the efficient handling of bulk materials is a key to productivity and profitability.

Expanding upon the book, our Foundations™ Training Program addresses the design and development of more productive belt conveyors, and is offered in three customizable seminars. Attendees gain a better understanding of conveyor safety and performance, helping to justify upgrade investments and increase profitability.



Martin Engineering USA

One Martin Place
Neponset, IL 61345-9766 USA
800 544 2947 or 309 852 2384
Fax 800 814 1553
www.martin-eng.com

**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001:2008 =**