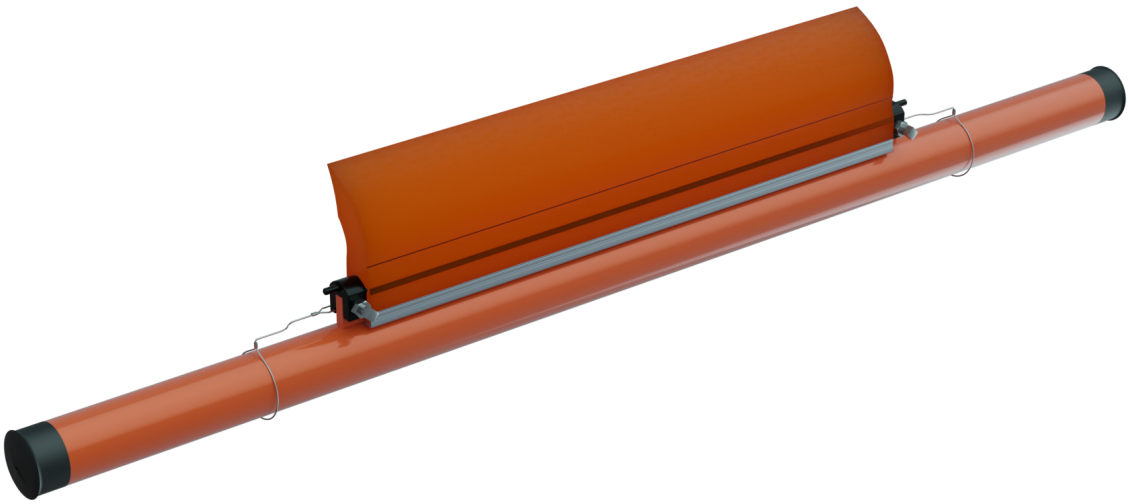
Martin® QC1+™ Cleaner PD

Go to Martin® QC1+™ Cleaner PD web page



Operator's Manual
M4171

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) ANSI/ASSP z244.1-2024, *The Control of Hazardous Energy Lockout, Tagout And Alternative Methods and Occupational Safety* and Health Administration (OSHA) Federal Register, Title 29 Subtitle B Chapter XVII Subpart J 1910.147, *Control of Hazardous Energy Source (Lockout/Tagout);* Final Rule.

The following symbols may be used in this manual:

⚠ DANGER

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

⚠ WARNING

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

⚠ CAUTION

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

IMPORTANT

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

NOTE

Note: General statements to assist the reader.

Table of Contents

List of Figures

List of Tables

Introduction

General

The Martin® QC1+™ Cleaner PD combines effective removal of carryback with "quick-change" one-pin replacement of a long-lasting, one-piece blade. To introduce product back into the product flow, the Martin® QC1+™ Cleaner PD is installed on the face of the head pulley. On a dual-cleaner system, a Secondary Cleaner is installed immediately following the Pre-Cleaner to remove stubborn material left on the conveyor belt. If a Pre-Cleaner cannot be used because of space limitations, Secondary Cleaners can be installed alone. Multiple Pre-Cleaners and/or Secondary Cleaners may be required to clean the belt. If the material-handling process or product could be affected by contamination from the use of these belt cleaners, the user is responsible for taking the necessary steps to prevent contamination. Consult Martin Engineering or a representative for alternate belt cleaners or belt cleaner locations to use where contamination may be an issue.

Installations without chutework

These procedures were written for equipment that is being installed on enclosed pulley chutework. If the pulley is not enclosed, the equipment should be installed using the best available field resources and methods to ensure that the critical dimensions are followed for proper installation.

Belt cleaner inspection access

If the belt cleaner is installed on enclosed pulley chutework, at least one Martin® Inspection Door should be installed. Martin® Inspection Doors are available from Martin Engineering or a representative.

Belt cleaner blades

Martin® QC1+™ Cleaner PD Blades are available in five different materials (see Table I for specifications). Only standard (orange) Martin® QC1+™ Cleaner PD Blades are made of materials that meet Mine Safety and Health Administration (MSHA) requirements under "Interim Fire and Toxicity Criteria for Products Taken Into Underground Mines," March 22, 1977 (MSHA acceptance number MSHA-IC-95/1, MSHA-IC-95/7).

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.
- *Martin® Inspection Door Operator's Manual, P/N M3891*
- *Martin® Twist Tensioner Operator Manual, P/N M3837*
- *Martin® Universal Spring Tensioners XHD, HD Max and PD Operator's Manual, P/N M3512*

Materials required

Installation of this equipment requires the use of standard hand tools, grinder, welder, and cutting torch.

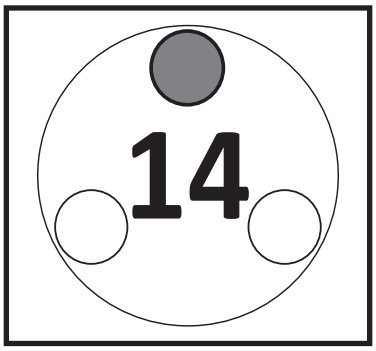
Table I. Martin® QC1+ ™ Cleaner PD Blade Colors, Materials and Specifications

Urethane Selection	Application Description	Typical Materials	Continuous Temperature
Orange (O)	**Standard Martin® Urethane** Suitable for 80% or more of all belt cleaner applications, including abrasive conditions. Best choice for exposure to solvents or oil.	Bauxite, Coke, Coal, Overburden Refuse	-20° to 160°F (-29° to 71°C)
Brown (B)	**Chemical-Resistant Urethane** Improves resistance to chemicals; reduced absorption of water in high-moisture environments.	Limestone	-40° to 160° F (40° to 71°C)
Green (G)	**High-Temperature Urethane** For exposure to intermittent temperatures up to 350°F (177°C).	Clinker	-40° to 300°F (-40 to 149°C)
Tan (T)	**Low-Rigidity Urethane** For dry products such as sand and gravel.	Gravel, Dry Sand	-20° to 160°F (-29° to 71°C)
Blue (N)	**Low-Adhesion Urethane** For sticky or tacky materials.	Cement, Glass, Wood Chips	-20° to 160°F (-29° to 71°F)
Yellow w/ Ceramic Beads (C)	**Highly Abrasive-Resistant Urethane** For abrasive applications.		-20° to 160°F (-29° to 71°C)

IMPORTANT

Urethane shelf life

Urethane put in service after exceeding it's shelf life may wear differently and deteriorate quicker than normal urethane.



NOTE

Code Date is written near bottom of blade as mm/dd/yy-x. In addition to or in place of this date, you may see an imprinted date medallion similar to the example shown. In this example, "14" stands for the year 2014. The small circles represent the quarter of the year. If three circles are "punched" the blade was produced in the first quarter. If none of the circles are "punched" the blade was produced in the fourth quarter. If code date on your blade(s) is not legible or is missing, contact Martin Engineering or a representative.

Table II. Urethane Shelf Life

Blade Color	Shelf Life
Blue	1 Year from Code Date
Brown	2 Years from Code Date
Tan	1 Year from Code Date
Green	2 Years from Code Date
Orange	1 Year from Code Date
Yellow W/ Ceramic Beads	1 Year from Cade Date

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 belt cleaner, turn off and lockout / tagout / blockout / testout all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

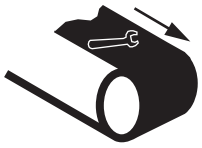
⚠ DANGER

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. Follow local confined space procedures.

⚠ WARNING

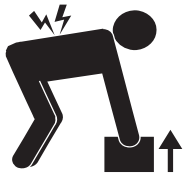
Before using a cutting torch or welding the chute wall, cover the conveyor belt with a fire retardant cover. Failure to do so can allow the belt to catch fire. Follow local fire watch procedures

⚠ 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.

⚠ WARNING



Mainframe with blade can be heavy and may require two people to lift. Attempting to lift the belt cleaner without assistance could result in injury.

Before Installing Belt Cleaner

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 belt cleaner assembly from shipping container.
3. If anything is missing contact Martin Engineering or a representative.

⚠WARNING

Before installing, servicing, or adjusting equipment, turn off and lockout / tagout / blockout / testout 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 lockout / tagout / blockout / testout 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. Follow local confined space procedures.

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

IMPORTANT

Center the belt cleaner blades to clean an area narrower than the conveyor belt width. This allows for side-to-side movement of the belt and prevents damage to the belt edge.

NOTE

The chute wall that the tensioner will be located on is referred to as the "operator side." The other side of the chute is referred to as the "far side." (If installing dual tensioners, side that is most accessible is "operator side.")

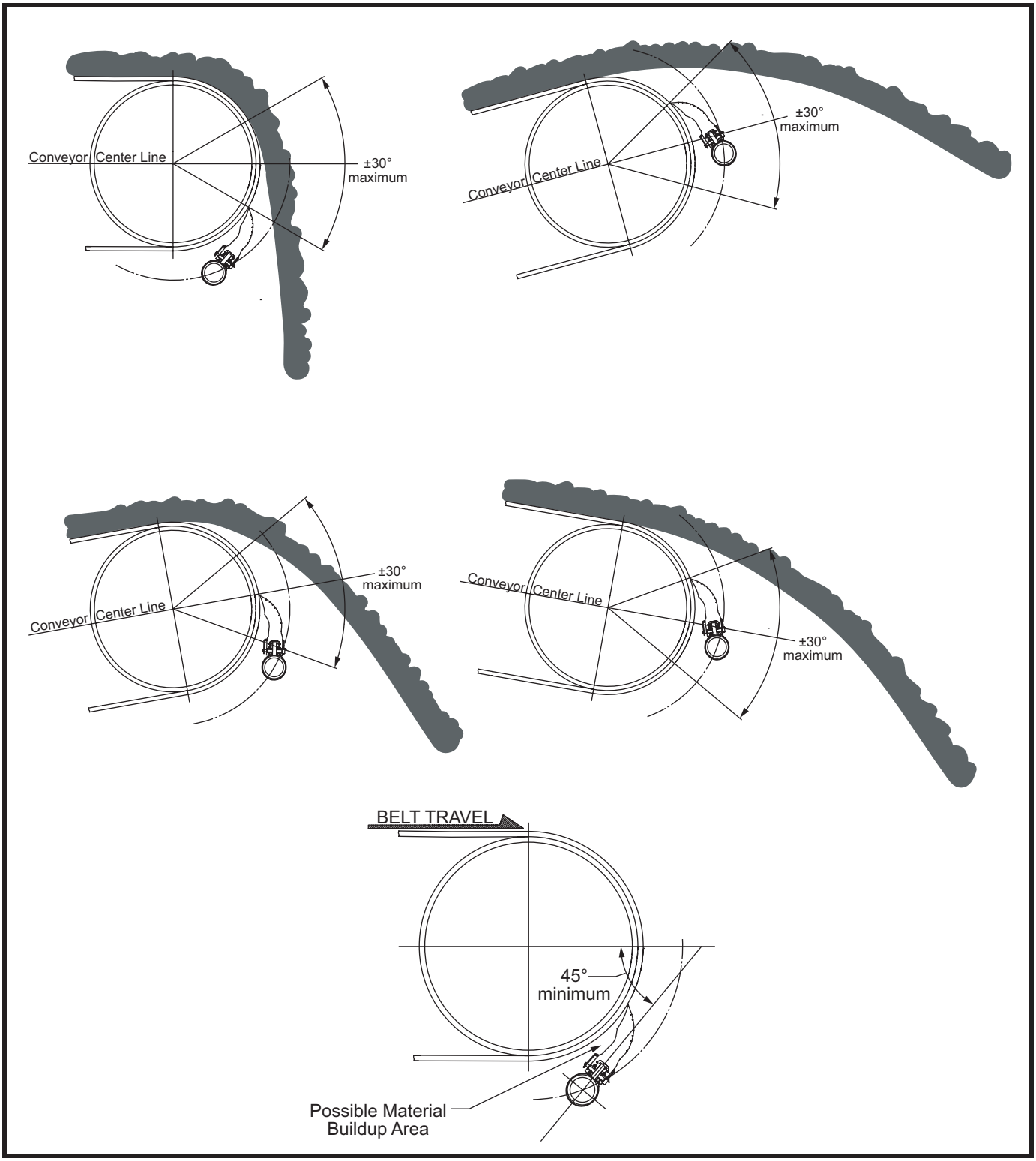
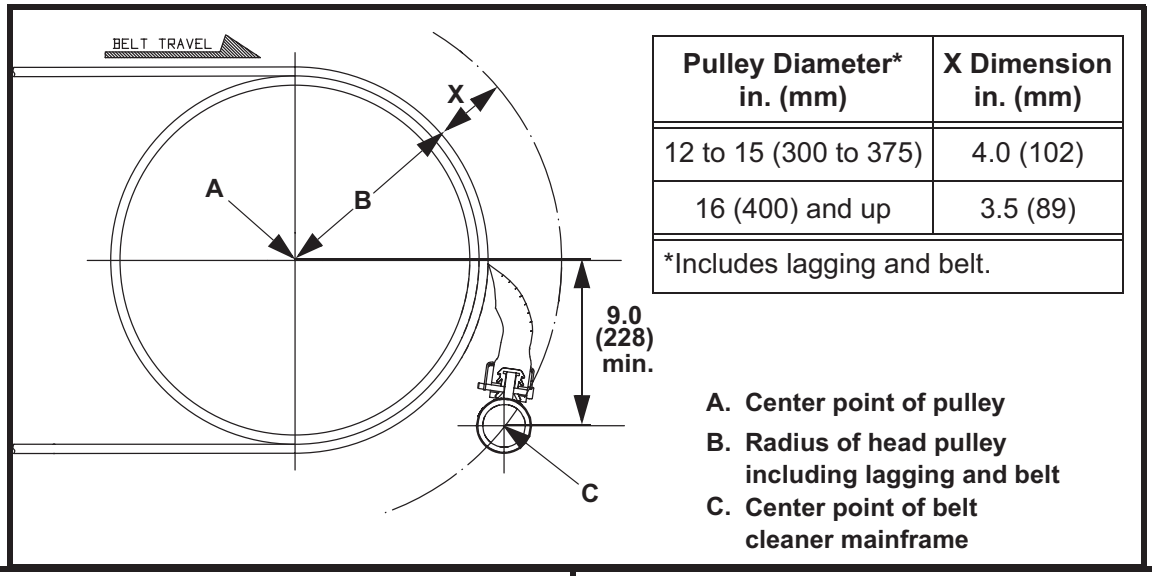


Figure 1. Belt Cleaner Mounting Locations

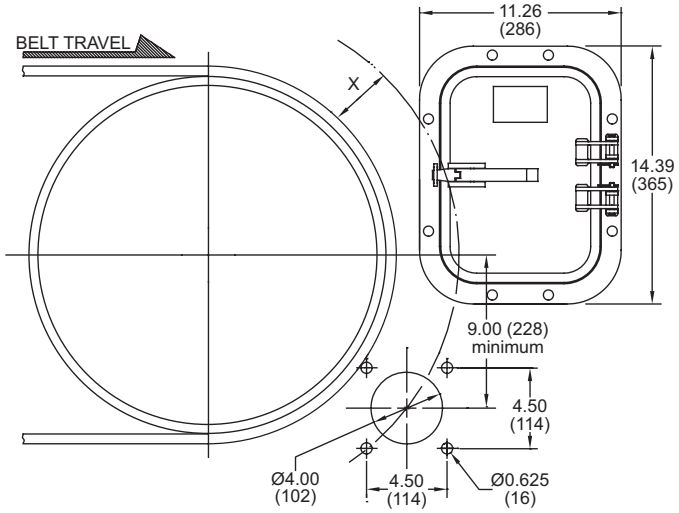
6. Inspect belt cleaner mounting area for possible obstructions that could interfere with proper mounting. Refer to following guidelines:
   a. The cleaner can be mounted anywhere on the arc from +30 degrees to -30 degrees from a center line parallel to the belt line as long as:
      (1) The blade is not in the direct flow of discharging material causing premature blade wear.
      (2) The diameter of the pulley is big enough that the blade does not trap or hold material between the inside of the blade and the belt.
      (3) There is at least the equivalent of a 45 degree angle between the blade and belt to prevent material buildup in this space.
   b. Lack of service is the main cause of poor belt cleaning performance. Follow CEMA guidelines for access:
      (1) Clearance for service outside the chute must be at least equal to the belt width.
      (2) Cleaners must have service platforms. CEMA recommends cleaners be mounted at least 24 in. (600 mm) above the work platform.
      (3) If the belt width is 54 in. (1400 mm) or larger consider access doors on both sides of the chute.
   c. Refer to “Installing Belt Cleaner and Tensioner and “Part Numbers” sections of this manual for specific mounting and cleaner dimensions

Installing Belt Cleaner and Tensioner

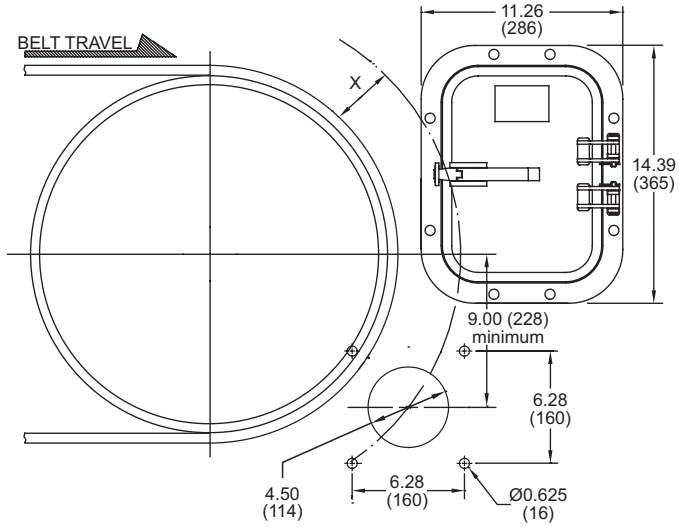


Pulley Diameter* in. (mm)	X Dimension in. (mm)
12 to 15 (300 to 375)	4.0 (102)
16 (400) and up	3.5 (89)
*Includes lagging and belt.	

A. Center point of pulley
B. Radius of head pulley including lagging and belt
C. Center point of belt cleaner mainframe



Martin® QC1+™ Cleaner PD with Martin® Twist Tensioner



Martin® QC1+™ Cleaner PD with Martin® Spring Tensioner

Figure 2. Belt Cleaner Mainframe Location

Finding center point of belt cleaner mainframe

1. On operator side of chute, find pulley center point (A).
2. Measure radius of head pulley including lagging and belt thickness (B). To this dimension, add dimension X from the Table in Figure 2.
3. Starting from center point (A), measure the total distance calculated in step 2 (B + X) and draw an arc on chute wall.
4. Measure down from pulley's horizontal centerline the distance shown in Figure 2 and draw a horizontal line parallel to it. Locate center point of belt cleaner mainframe (C) where this line intersects the arc on the chute wall.

5. Make sure mainframe and blade do not lie in path of material unloading from conveyor belt.
6. Repeat steps 1 through 5 for far side chute wall.
7. Using mounting plate as template, mark location of holes for belt cleaner mounting plates on both sides of chute.
8. Drill or cut hole for mainframe and four 9/16-in. (14-mm) holes for screws in both operator side and far side chute walls. Remove burrs and sharp edges.
9. If using Martin® Inspection Door, cut access door opening and mounting holes according to *Martin® Inspection Door Operator's Manual*, P/N M3891.

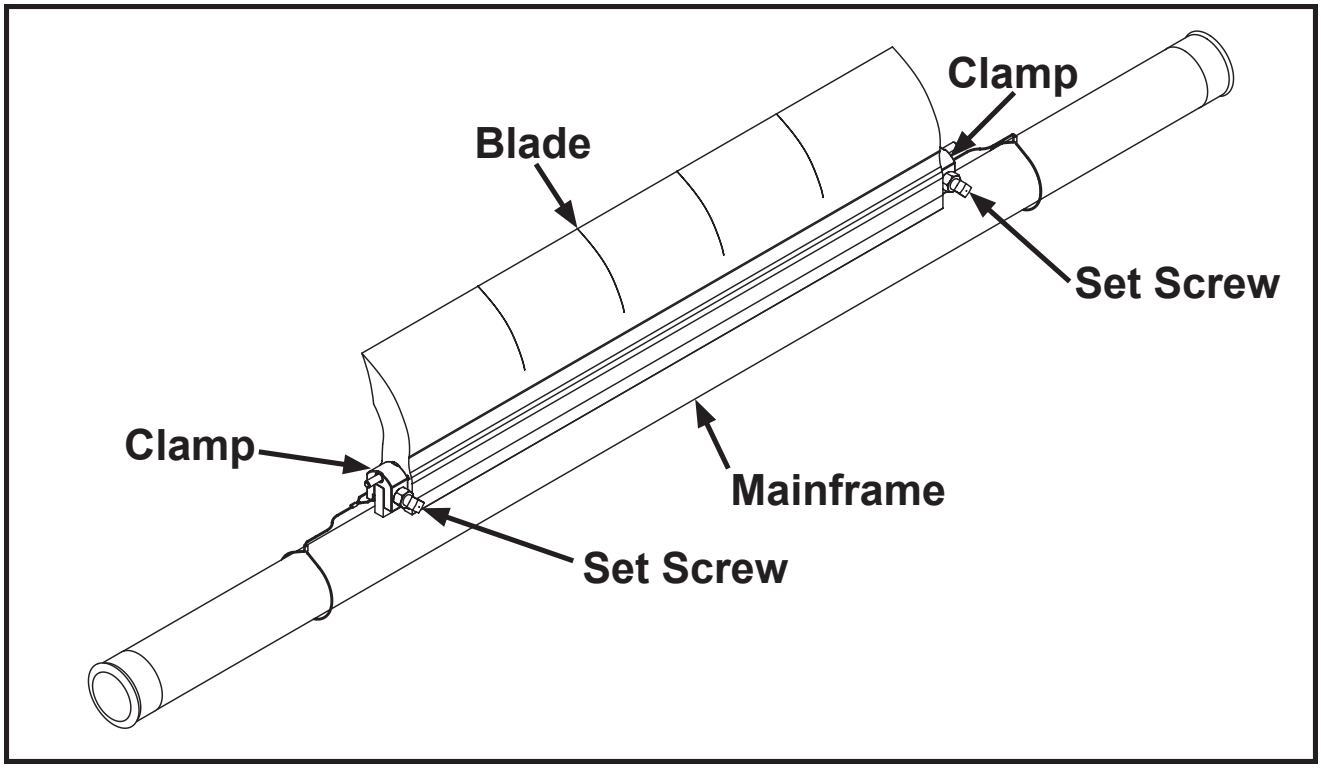


Figure 3. Removing Blade

Removing Blade

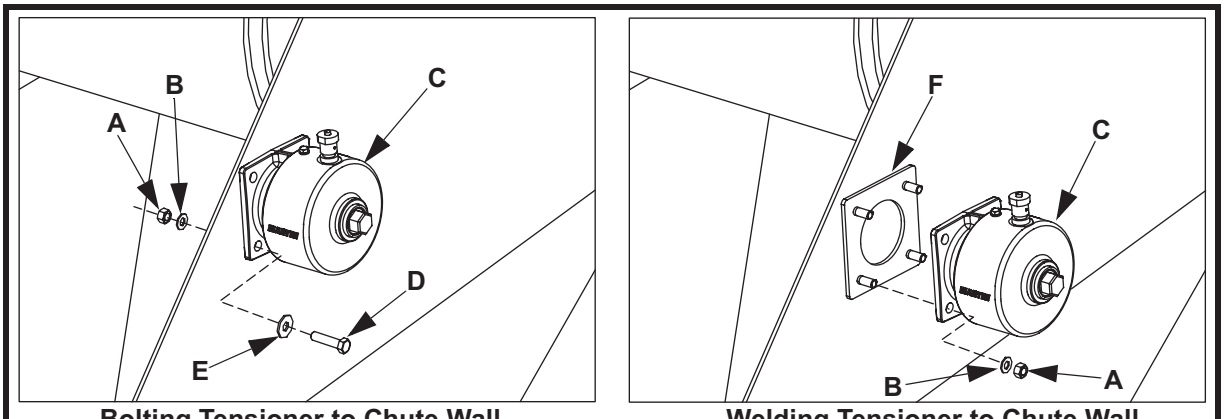
1. Loosen set screws and remove blade clamps.
2. Remove blade from mainframe. Make sure clamp lanyard remains attached to mainframe.

Belt Cleaner and Spring Tensioner Installation

IMPORTANT

The Martin® QC1+™ Cleaner PD requires spring tensioner to use blue spring and blue tensioning label.

1. Install spring tensioner according to *Martin® Universal Tensioner XHD, HD Max and PD Operator's Manual*, P/N M3512.
2. If using Martin® Inspection Door, install according to *Martin® Inspection Door Operator's Manual*, P/N M3891.
3. Position blade on mainframe with blade curve facing conveyor belt.
4. Install clamps onto mainframe and blade.
5. Make sure blade is centered on belt and tighten set screws.
6. Make sure mainframe is parallel to belt.
7. Tension belt cleaner according to *Martin® Universal Tensioner XHD, HD Max and PD Operator's Manual*, P/N M3512.



Bolting Tensioner to Chute Wall

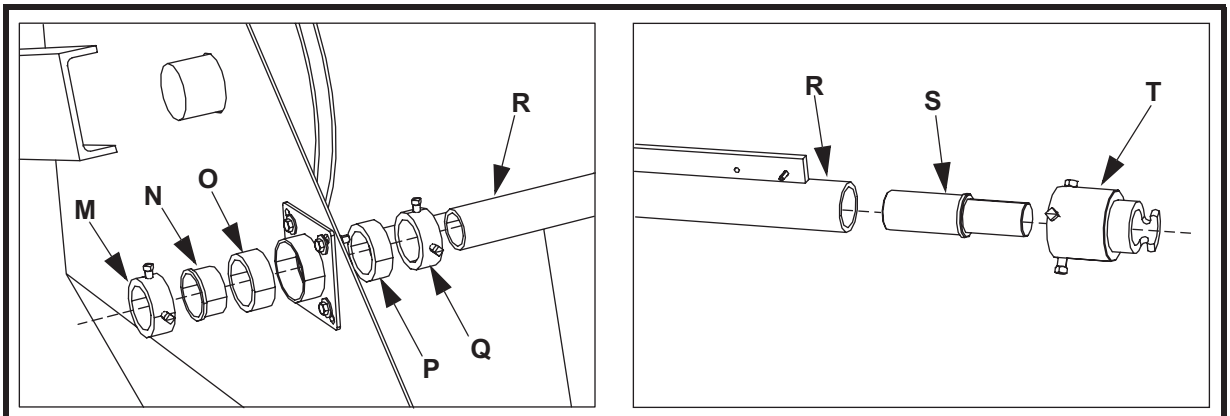
Welding Tensioner to Chute Wall

A. Hex Nut (4 used)
B. Compression Washer (4 used)
C. Tensioner Assembly
D. Cap Screw (4 used)
E. Flat Washer (4 used)
F. Adapter Plate

Figure 4. Martin® Twist Tensioner Installation

Belt Cleaner and Martin® Twist Tensioner Installation

1. If bolting tensioner to chute wall, mount tensioner assembly (C) on chute wall using cap screws (D), flat washers (E), compression washers (B), and nuts (A).
2. If welding tensioner to chute wall, do the following:
   a. Position adapter plate (F) over hole and weld onto chute wall.
   b. Mount tensioner assembly (C) on adapter plate (F) using compression washers (B) and nuts (A).



M. Lock Collar
N. Nylon Bushing
O. Shock Ring
P. Spacer
Q. Lock Collar
R. Mainframe
S. Adapter Shaft
T. Self-Relieving Coupling

Figure 5. Mainframe Installation

3. Slide lock collar (M) and spacer (P) onto far side end of mainframe (R).
4. Slide mainframe through far side mount.

5. Install shock ring (O) and bushing (N) onto mainframe and into far side mount.
6. Slide lock collar (M) onto mainframe.
7. Slide adapter shaft (S) into operator side of mainframe.
8. Install self-relieving coupling (T) over shaft and onto mainframe.
9. Tighten set screws on coupling.
10. Reinstall blade onto mainframe.
11. Align self-relieving coupling with coupling in tensioner and slide mainframe into tensioner assembly. Make sure coupling is fully engaged in tensioner.
12. Make sure blades are centered on belt and mainframe is parallel to belt.
13. Slide lock collar (Q) against spacer (P) and lock collar (M) against nylon bushing (N). Tighten two square head set screws on each lock collar.

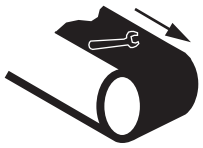
⚠ DANGER

Ensure that ratchet adjusting knob is engaged allowing cleaner to rotate into head pulley only. If ratchet adjusting knob is not engaged, mainframe will rotate freely. Unsafe practices while ratchet adjusting knob is not engaged could result in personal injury or death.

14. Engage ratchet adjusting knob so cleaner will rotate into head pulley only.
15. Turn tensioning gear toward head pulley until you feel resistance of blades against belt. The ratchet mechanism will allow mainframe to rotate one direction only. If tensioning gear will not turn, pull out ratchet adjusting knob, turn it 180°, and release.
16. Turn tensioning gear until you feel resistance of blades against belt. Refer to *Martin® Twist Tensioner Operator's Manual*, P/N M3837 for installation and tensioning instructions or *Martin® Twist Tensioner Label*, P/N 33383 on tensioner.

After Installing Belt Cleaner

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.
3. Additional safety labels are available from CEMA. For more information regarding CEMA safety labels visit www.cemanet.org.



⚠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.

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

⚠ DANGER

Before installing, servicing, or adjusting the belt cleaner/tensioner, turn off and lockout / tagout / blockout / testout all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

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

b. Make sure cleaner is not changing belt line. If it is, install belt support ahead of blade-to-belt contact point (Secondary Cleaner).

c. Inspect belt cleaner for the following:
   - Wear. (A small amount of "break-in" wear may be found. This will stop once blades wear to conveyor belt contour.)
   - Material buildup. (No material between blades and return side of conveyor belt should be found.)

d. If wear, material buildup, or some other problem exists, see "Troubleshooting."

Weekly Maintenance

IMPORTANT

Read entire section before beginning work.

NOTE

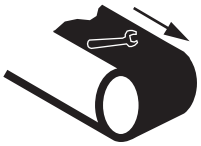
Maintenance inspection should be performed no less than weekly. Some applications may require more frequent maintenance inspections.

⚠ DANGER

Before installing, servicing, or adjusting the belt cleaner/ tensioner, turn off and lockout / tagout / blockout / testout 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 belt cleaner.
2. Make sure all fasteners are tight. Tighten if necessary.
3. Check tension on cleaner. Re-tension if necessary.
4. Wipe all labels clean. If labels are not readable, contact Martin Engineering or a representative for replacements.
5. Check blades for excessive wear. Replace if necessary.
6. 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.

7. 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.

8. Start conveyor belt. Observe belt cleaner operation for several revolutions of the belt. Service or adjust belt cleaner as necessary to ensure proper belt cleaner operation.

Troubleshooting

Symptom	Corrective Action
Insufficient cleaning and carryback.	• Tension of cleaner on belt is set too low or too high. Increase or decrease tensioner setting. • Blades are worn. Check blades and replace if necessary.
Blade wears only in the center.	• Use a segmented style blade for crown pulleys. • Consider narrowing the blade width to clean the middle of the belt.
Noise or vibration.	Tension is not sufficient or is set too high. Correct tension as necessary. If this does not correct problem, blade urethane may not match application. Contact Martin Engineering or representative.
High blade wear rate.	Tension of cleaner on belt is set too high. Reduce tensioner setting.
Unusual wear or damage to blades.	Check belt splice(s) and repair as necessary.
Bent or broken mainframe or support frame due to blade slipping through.	If blades are worn to or past the wear line, replace blades. If blades are not worn, check mainframe location.
Corrosion or chemical degradation.	Blade urethane may not match application. Contact Martin Engineering or representative.

NOTE

Conveyor equipment such as conveyor belt cleaners are subject to a wide variety of bulk materials characteristics and often have to perform under extreme operating or environmental conditions. It is not possible to predict all circumstances that may require troubleshooting. Contact Martin Engineering or a representative if you are experiencing problems other than those listed in the "Troubleshooting" chart above. Do not return the equipment to operation until the problem has been identified and corrected.

Installation checklist

If after taking the corrective actions suggested under "Troubleshooting" you are still experiencing problems, check for the following:

Installation Checklist
✓ Pre-Cleaner mainframe is proper distance from belt surface on both ends of mainframe and parallel to the pulley shaft.
✓ Pre-Cleaner blade tip is at or below horizontal center line of pulley and does not lie in path of material flow.
✓ Blades are centered on belt.

Part Numbers

This section provides product names and corresponding part numbers for Martin® QC1+™ Cleaner PD and related equipment. Please reference part numbers when ordering parts:

Martin® QC1+™ Cleaner PD

Martin® QC1+™ Cleaner PD Mainframe Assembly:
P/N C1QCF1SXXSXXXXX. See Figure 7.

NOMENCLATURE **C1QCF1 SXX XX X X X X**

P/N Prefix
Belt Width (inches)
Blade Coverage
Blade Color
Segmented Blade
Mainframe
Tensioner

BELT WIDTH
SXX: XX indicates belt width in inches (18 thru 72)

BLADE COVERAGE
00: No Blade
S4: 4 in. less belt width
S6: 6 in. less belt width
S8: 8 in. less belt width

SOLID/SEGMENTED BLADE
0: Segmented Blade/ No Blade
1: Solid Blade

TENSIONER
S: Martin® Spring Tensioner
T: Martin® Twist Tensioner
F: Martin® Twist Tensioner Stainless Steel
P: Martin® Spring Tensioner Stainless Steel

BLADE COLOR
0: No Blade
B: Brown
T: Tan
G: Green
N: Navy Blue
O: Orange
C: Yellow with Ceramic Beads

MAINFRAME
F: Stainless Steel with Steel Blade Insert
P: Painted Steel with Aluminum Blade Insert
E: Extended Mainframe Painted Steel with Aluminum Blade Insert

Recommended Tensioners

Belts 24 to 48 in. wide:

Martin® Spring Tensioner: P/N 38003-X.

Martin® Twist Tensioner: P/N 38554.

Belts 54 to 84 in. wide:

Martin® Dual Spring Tensioner: P/N 38003-2-X.

Martin® Twist Dual Tensioner: P/N 38554-2.

Operator's manuals

Martin® Twist Tensioner Operator's Manual: P/N M3837.

Martin® Universal Spring Tensioner XHD, HD Max and PD Operator's Manual: P/N M3512.

Martin® Inspection Door Operator's Manual: P/N M3891.

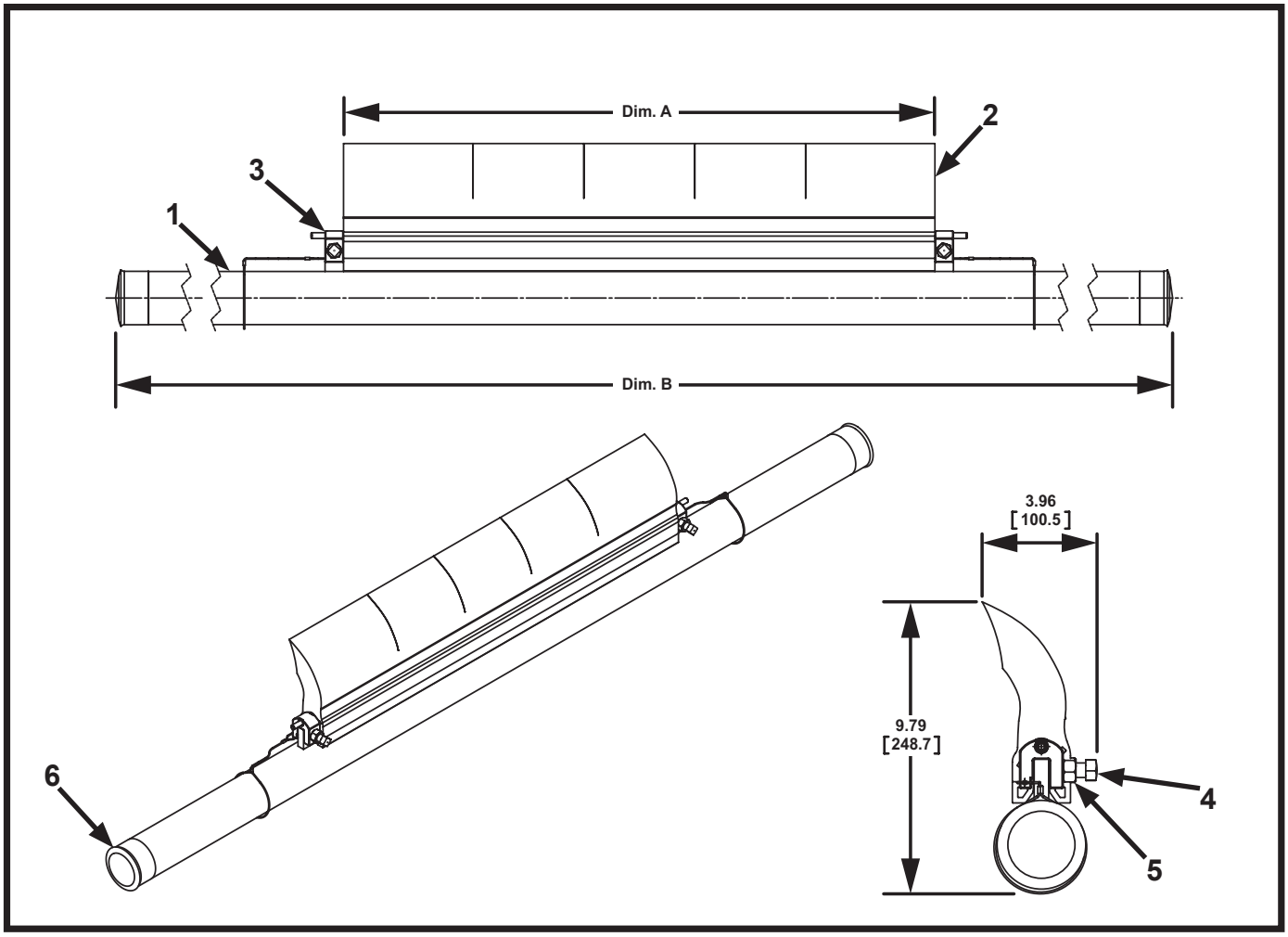


Figure 6. Martin® QC1+™ Cleaner PD Assembly, P/N C1QCF1SXXSXXXXX

Item	Description	Part Number	Qty
1	Mainframe Weldment	Table III	1
2	Blade	Table III	1
3	Blade Clamp	C1QCA1002ST	2
4	Screw SHS 1/2-13NC X 1-1/4 SS	30488	2
5	Nut Hex 1/2-13NC GR 2 ZP	11771	2
6	Vinyl Cap W/Flange	SUS10142	2
(NS) 7	Label Martin® Products	38048	2
(NS) 8	Label Conveyor Products Warning	23395	2
(NS) 9	Manual Operator's	M4171	1
(NS) 10	Tensioner Assembly	Table V	1

NS = Not Shown

Table III. Martin® QC1+™ Cleaner PV Assembly Hardware Part Numbers

Part Number	P/N Item 1	P/N Item 2
C1QCF1S18S4XXPX	C1QCF1MS18P	C1QCHBS18S4XX
C1QCF1S18S6XXPX	C1QCF1MS18P	C1QCHBS18S6XX
C1QCF1S18S8XXPX	C1QCF1MS18P	C1QCHBS18S8XX
C1QCF1S24S4XXPX	C1QCF1MS24P	C1QCHBS24S4XX
C1QCF1S24S6XXPX	C1QCF1MS24P	C1QCHBS24S6XX
C1QCF1S24S8XXPX	C1QCF1MS24P	C1QCHBS24S8XX
C1QCF1S30S4XXPX	C1QCF1MS30P	C1QCHBS30S4XX
C1QCF1S30S6XXPX	C1QCF1MS30P	C1QCHBS30S6XX
C1QCF1S30S8XXPX	C1QCF1MS30P	C1QCHBS30S8XX
C1QCF1S36S4XXPX	C1QCF1MS36P	C1QCHBS36S4XX
C1QCF1S36S6XXPX	C1QCF1MS36P	C1QCHBS36S6XX
C1QCF1S36S8XXPX	C1QCF1MS36P	C1QCHBS36S8XX
C1QCF1S42S4XXPX	C1QCF1MS42P	C1QCHBS42S4XX
C1QCF1S42S6XXPX	C1QCF1MS42P	C1QCHBS42S6XX
C1QCF1S42S8XXPX	C1QCF1MS42P	C1QCHBS42S8XX
C1QCF1S48S4XXPX	C1QCF1MS48P	C1QCHBS48S4XX
C1QCF1S48S6XXPX	C1QCF1MS48P	C1QCHBS48S6XX
C1QCF1S48S8XXPX	C1QCF1MS48P	C1QCHBS48S8XX
C1QCF1S54S4XXPX	C1QCF1MS54P	C1QCHBS54S4XX
C1QCF1S54S6XXPX	C1QCF1MS54P	C1QCHBS54S6XX
C1QCF1S54S8XXPX	C1QCF1MS54P	C1QCHBS54S8XX
C1QCF1S60S4XXPX	C1QCF1MS60P	C1QCHBS60S4XX
C1QCF1S60S6XXPX	C1QCF1MS60P	C1QCHBS60S6XX
C1QCF1S60S8XXPX	C1QCF1MS60P	C1QCHBS60S8XX
C1QCF1S66S4XXPX	C1QCF1MS66P	C1QCHBS66S4XX
C1QCF1S66S6XXPX	C1QCF1MS66P	C1QCHBS66S6XX
C1QCF1S66S8XXPX	C1QCF1MS66P	C1QCHBS66S8XX
C1QCF1S72S4XXPX	C1QCF1MS72P	C1QCHBS72S4XX
C1QCF1S72S6XXPX	C1QCF1MS72P	C1QCHBS72S6XX
C1QCF1S72S8XXPX	C1QCF1MS72P	C1QCHBS72S8XX

Table IV. Martin® QC1+™ Cleaner PV Assembly Blade Color Part Number Chart

Part Number	Blade Color & Segemented or Solid	P/N Item 2
C1QCF1SXXSXB0PX	Seg Brown	C1QCHBSXXSXB0
C1QCF1SXXSXB1PX	Sol Brown	C1QCHBSXXSXB1
C1QCF1SXXSXT0PX	Seg Tan	C1QCHBSXXSXT0
C1QCF1SXXSXT1PX	Sol Tan	C1QCHBSXXSXT1
C1QCF1SXXSXG0PX	Seg Green	C1QCHBSXXSXG0
C1QCF1SXXSXG1PX	Sol Green	C1QCHBSXXSXG1
C1QCF1SXXSXN0PX	Seg Navy Blue	C1QCHBSXXSXN0
C1QCF1SXXSXN1PX	Sol Navy Blue	C1QCHBSXXSXN1
C1QCF1SXXSXO0PX	Seg Orange	C1QCHBSXXSXO0
C1QCF1SXXSXO1PX	Sol Orange	C1QCHBSXXSXO1
C1QCF1SXXSXC1PX	Sol Yellow W/ Ceramic Beads	C1QCHBSXXSXC1

Table V. Martin® QC1+™ Cleaner PV Assembly Tensioner Chart

Belt Width	P/N Item 10 Twist Tensioner	P/N Item 10 Spring Tensioner
18 THRU 48	38554	38003
54 AND ABOVE	38554-2	38003-2

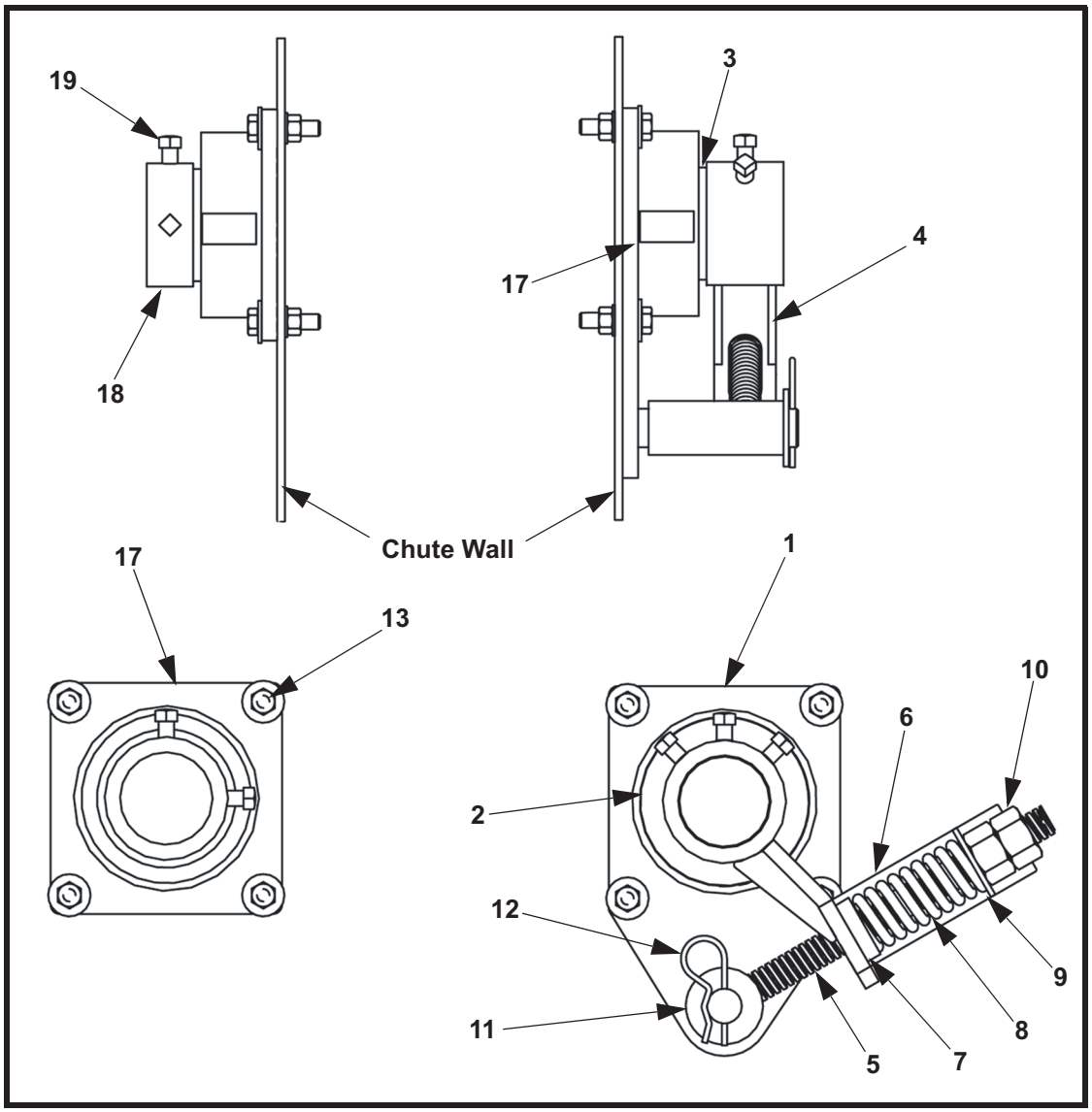


Figure 7. Martin® Universal Spring Tensioner Assembly, P/N 38003-X (Sheet 1 of 2)

Item	Description	Part Number	Qty
1	Mount Plate Weldment	38001	1
2	Shock Ring	32322	2
3	Nylon Bushing	34306	2
4	Lever Arm Weldment	37855	1
5	Rod Weldment with SS Rod	38002	1
6	Tensioning Gauge	36051	1
7	Bushing Spring Cover Mount	36119	1
8	Spring Die 2.00 x 5.00	35127	1
9	Washer Flat 1 Regular ZP	32315	1
10	Nut Hex 1-5 Acme ZP	32311	2
11	Washer Flat 1-1/4 Narrow ZP	34672	1
12	Hairpin Cotter 0.18 x 3.56 ZP	35171	1
13	Mounting Hardware Kit	34498	1
(NS) 14	Tube Clear	34063-08S	1
(NS) 15	Clamp Hose 2.06 Min. x 3.00 Max.	20339-11	1
(NS) 16	Spring Cover	32245-04	1
17	Far Side Mount Weldment	32342	1
18	Locking Collar	32341	1
19	Screw SHS 1/2 - 13 NC x 1.55	22763-03	5
(NS) 20	Label Universal Spring Tensioner	C1QCA1008L	1
(NS) 21	Label Martin Products	32238	2
(NS) 22	Label Pinch Point Warning	30528	1
(NS) 23	Label Conveyor Products Warning	23395	2
(NS) 24	Manual Operator’s	M3512	1
(NS) 25	Spring Die 2.00 x 5.00 275lb/in.	C1QCA1008	1
(NS) 26	Spring Die 2.00 x 5.00 400lb/in.	C1QCA1009	1

NS = Not Shown

Figure 7. Martin® Universal Spring Tensioner Assembly, P/N 38003-X (Sheet 2 of 2)

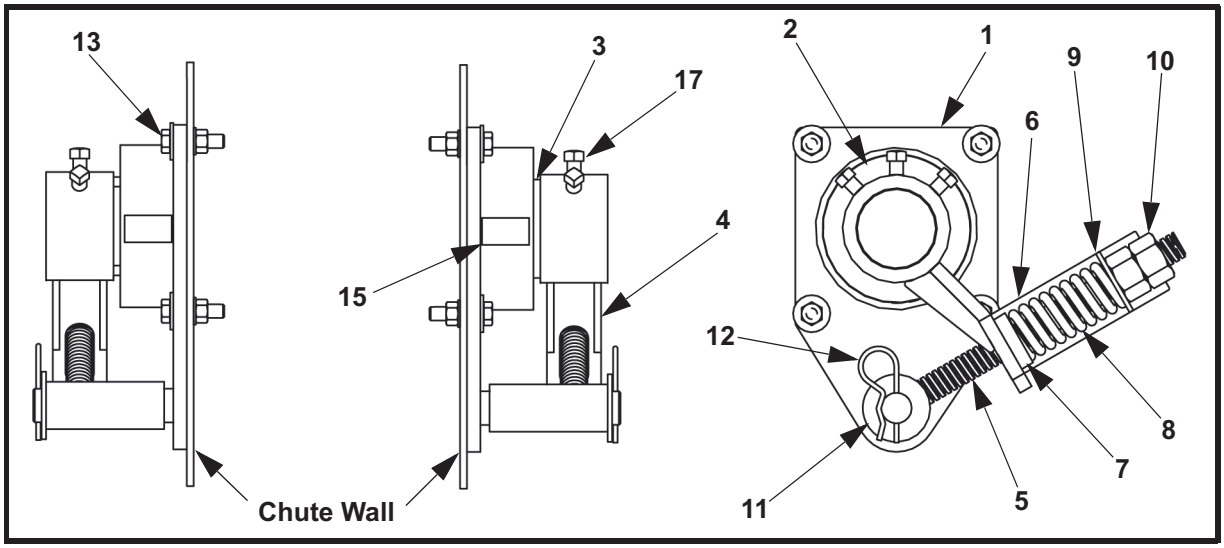


Figure 8. Dual Martin® Universal Spring Tensioner Assemblies, P/N 38003-2-X

Item	Description	Part Number	Qty
1	Mount Plate Weldment	38001	2
2	Shock Ring	32322	2
3	Nylon Bushing	34306	2
4	Lever Arm Weldment	37855	2
5	Rod Weldment with SS Rod	38002	2
6	Tensioning Gauge	36051	2
7	Bushing Spring Cover Mount	36119	2
8	Spring Die 2.00 x 5.00	35127	2
9	Washer Flat 1 Regular ZP	32315	2
10	Nut Hex 1-5 Acme ZP	32311	4
11	Washer Flat 1-1/4 Narrow ZP	34672	2
12	Hairpin Cotter 0.18 x 3.56 ZP	35171	2
13	Mounting Hardware Kit	34498	1
(NS) 14	Tube Clear	34063-08S	2
(NS) 15	Clamp Hose 2.06 Min. x 3.00 Max.	20339-11	2
(NS) 16	Spring Cover	32245-04	2
17	Screw SHS 1/2 - 13 NC x 1.55	22763-03	6
(NS) 18	Label Universal Spring Tensioner	C1QCA1008L	1
(NS) 19	Label Martin Products	32238	2
(NS) 20	Label Pinch Point Warning	30528	2
(NS) 21	Label Conveyor Products Warning	23395	2
(NS) 22	Manual Operator's	M3512	1
(NS) 23	Spring Die 2.00 x 5.00 275lb/in.	C1QCA1008	1
(NS) 24	Spring Die 2.00 x 5.00 400lb/in.	C1QCA1009	1

NS = Not Shown

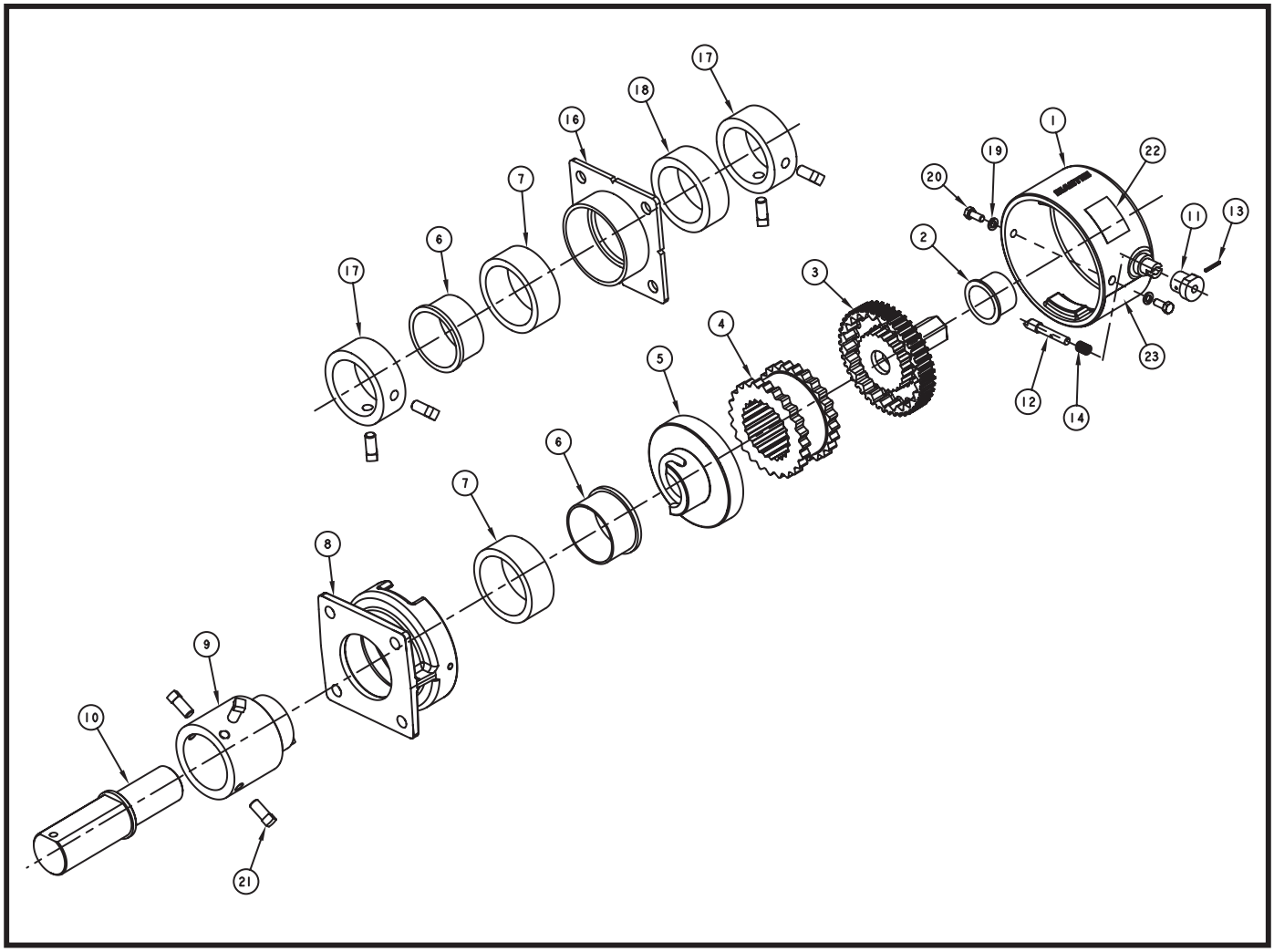


Figure 9. Martin® Twist Tensioner, P/N 38554
(Sheet 1 of 2)

Item	Description	Part Number	Qty 38554	Qty 38554-2
1	Machined Cover	38712	1	2
2	Nylon Bushing with taper	33674	1	2
3	Tensioning Gear	33672	1	2
4	Sleeve	31398	1	2
5	Locking Gear	33673	1	2
6	Nylon Bushing	33675	2	2
7	Shock Ring	33681	2	2
8	Machined Base	38711	1	2
9	Coupling Self-Relieving	38562	1	2
10	Guide Shaft	38563	1	2
11	Ratchet Adjusting Knob	33570-TT	1	2
12	Plunger	33572	1	2
13	Pin Spring 1/8 X 1 ZP	33574	1	2
14	Spring Compression	33573	1	2
(NS) 15	Mounting Hardware Kit	35284	1	1
16	Flange Plate Weldment	32496	1	—
17	Locking Collar	32341	2	—
18	Spacer Tube	38560	1	—
19	Washer Lock Helical Spring 5/16 ZP	M209	2	4
20	Screw HHC 5/16-18NC x 3/4 ZP	12250	2	4
21	Screw SHS 1/2-13NC x 1 SS	22763-03	7	6
22	Label Pinch Point Warning	30528	1	2
23	Label Martin® Twist Tensioner	33383	1	2
(NS) 24	Label Conveyor Products Warning	23395	2	2
(NS) 25	Manual Operator's	M4171	1	1

NS = Not Shown

Figure 9. Martin® Twist Tensioner, P/N 38554
(Sheet 2 of 2)

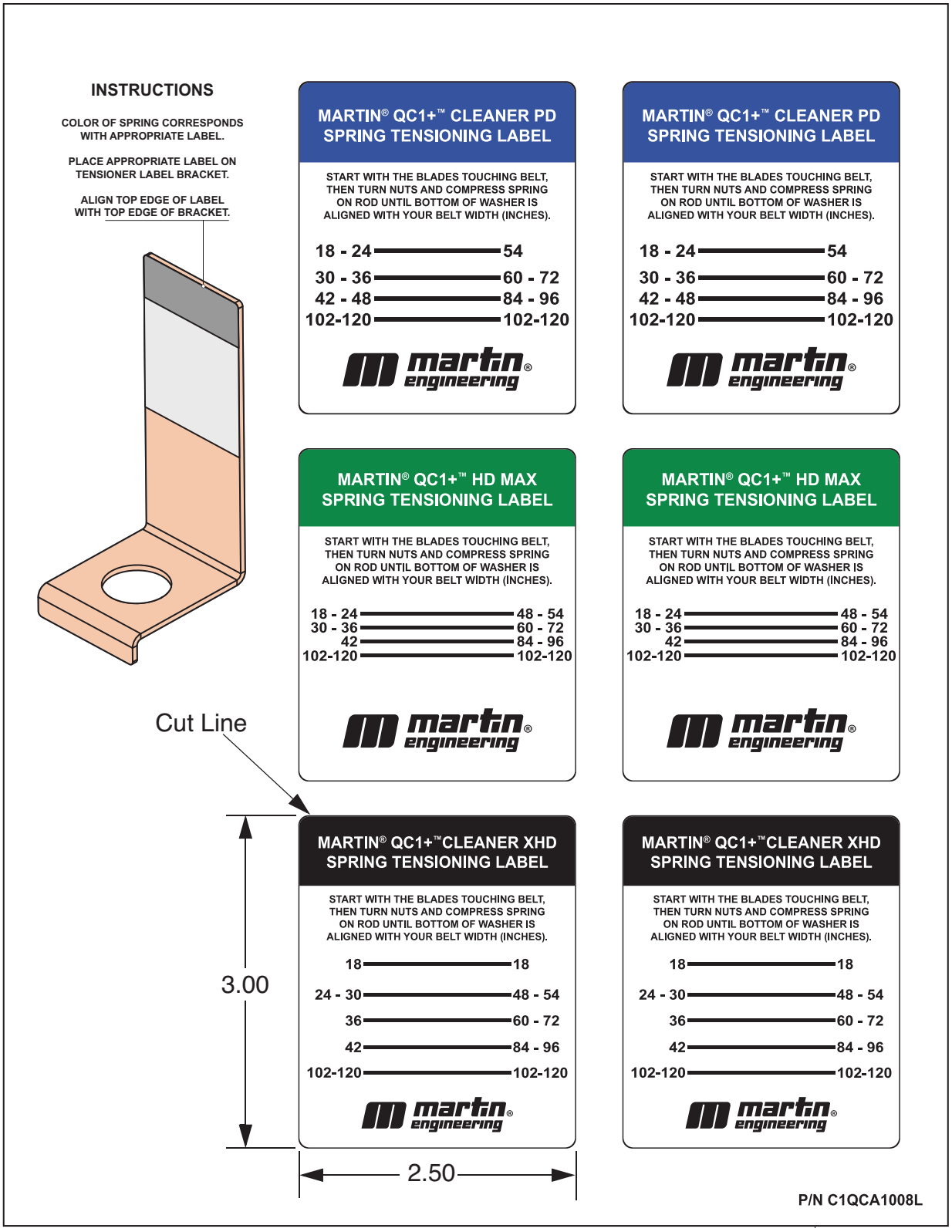


Figure 10. Universal Spring Tensioner Label, P/N C1QCA1008L

Figure 11. Pinch Point Warning Label, P/N 30528

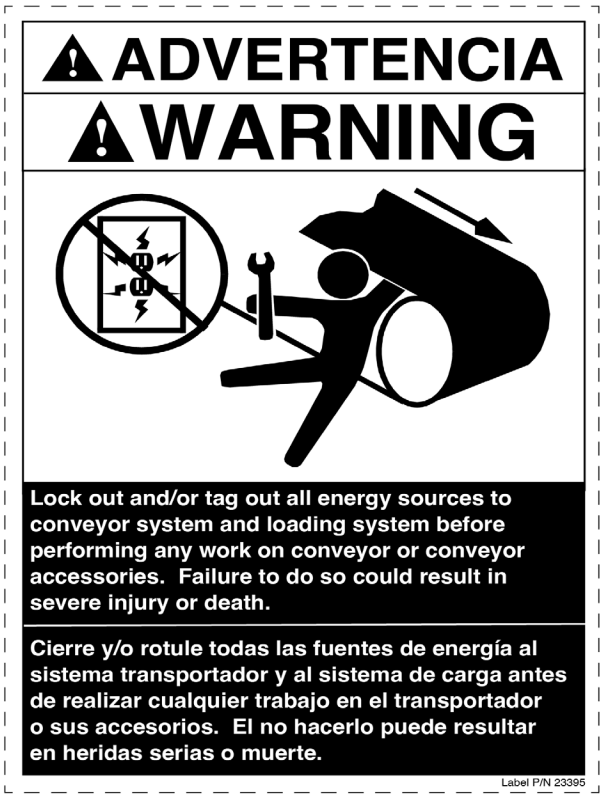
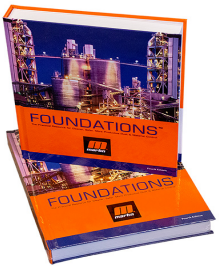


Figure 12. Conveyor Products Warning Label, P/N 23395

Problem Solved™ GUARANTEED!



For nearly 30 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 GL = ISO 9001 =

Form No. M4171-02/25