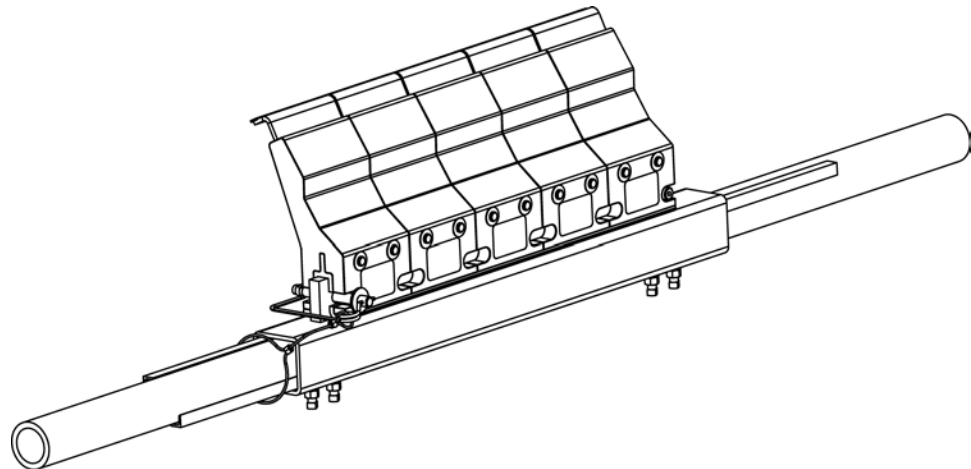




***Martin® QC1™  
Cleaner XHD with  
Metal Tipped Blade***

[Go to Martin® QC1™ Cleaner XHD with Metal Tipped Blade web page](#)



***Operator's Manual  
M3722***

# 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

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<b>Section</b>	<b>Page</b>
List of Figures/Tables .....	ii
Introduction .....	1
General .....	1
Installations without chutework .....	1
Belt cleaner inspection access .....	1
Belt cleaner blades .....	1
References .....	1
Safety .....	2
Before Installing Belt Cleaner and Tensioner .....	3
Installing Belt Cleaner and Tensioner .....	4
Locating and cutting mounting holes .....	4
Installing mounting plates .....	9
Installing mainframe and blade .....	10
Installing tensioner .....	13
Tensioning belt cleaner .....	18
After Installing Belt Cleaner and Tensioner .....	21
Weekly Maintenance .....	22
Troubleshooting .....	23
Blade Replacement .....	24
Part Numbers .....	27

## List of Figures

---

<b>Figure</b>	<b>Title</b>	<b>Page</b>
1	Martin <sup>®</sup> QC1™ Cleaner XHD with Metal Tipped Blade Assembly, P/N QC1X-XXMXXXXXXXXX .....	28
2	Martin <sup>®</sup> Spring Tensioner XHD Assembly, P/N 38003 .....	31
3	Martin <sup>®</sup> Dual Spring Tensioner XHD Assembly, P/N 38003-2 .....	33
4	Conveyor Products Warning Label, P/N 23395 .....	34
5	Pinch Point Warning Label, P/N 30528 .....	34
6	Martin <sup>®</sup> Spring Tensioner XHD Label, P/N 36055-P1 .....	35
7	Martin <sup>®</sup> Spring Tensioner XHD Label, P/N 36055-P2 .....	35

## List of Tables

---

<b>Table</b>	<b>Title</b>	<b>Page</b>
I	Martin <sup>®</sup> QC1™ Cleaner XHD with Metal Tipped Blade Part Numbers and Quantities .....	29

# Introduction

---

## *General*

To introduce product back into the product flow, a Pre-Cleaner is installed on the face of the head pulley. On a dual cleaner system, the 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, the Secondary Cleaner is installed alone. 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, a Martin<sup>®</sup> Inspection Door should be installed. Martin<sup>®</sup> Inspection Doors are available from Martin Engineering or a representative. See “Part Numbers” for a list of Martin<sup>®</sup> Inspection Doors and part numbers.



## *Belt cleaner blades*

**Martin<sup>®</sup> QC<sup>™</sup> Pre-Cleaner with Metal Tipped Blade should NOT be used on belts with mechanical fasteners. It is intended to be used only on Vulcanized Belts. When used on belts with mechanical fasteners, damage may occur to both the belt and the cleaner assembly. The cleaner should NOT be used on a belt that contains gouges, holes, or other belt imperfections, as the cleaner may cause further damage to the belt.**

## *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.

## 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.



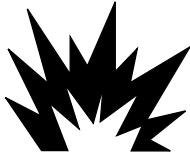
**⚠ DANGER**

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 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.



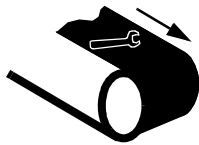
**⚠ DANGER**

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.



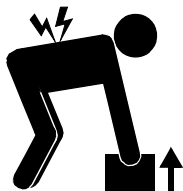
**⚠ WARNING**

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.



**⚠ 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 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.



## 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.")

6. Determine which side of chute is easiest to access. Locate the tensioner on the most accessible chute wall.

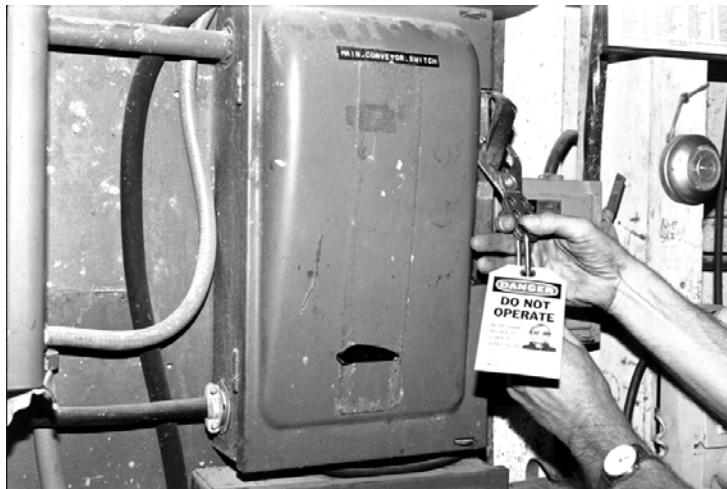
# Installing Belt Cleaner and Tensioner

*Locating and cutting mounting holes*

**⚠ CAUTION**

Martin® QC™ Pre-Cleaner with Metal Tipped Blade should NOT be used on belts with mechanical fasteners. It is intended to be used only on Vulcanized Belts. When used on belts with mechanical fasteners, damage may occur to both the belt and the cleaner assembly. The cleaner should NOT be used on a belt that contains gouges, holes, or other belt imperfections, as the cleaner may cause further damage to the belt.

1



2



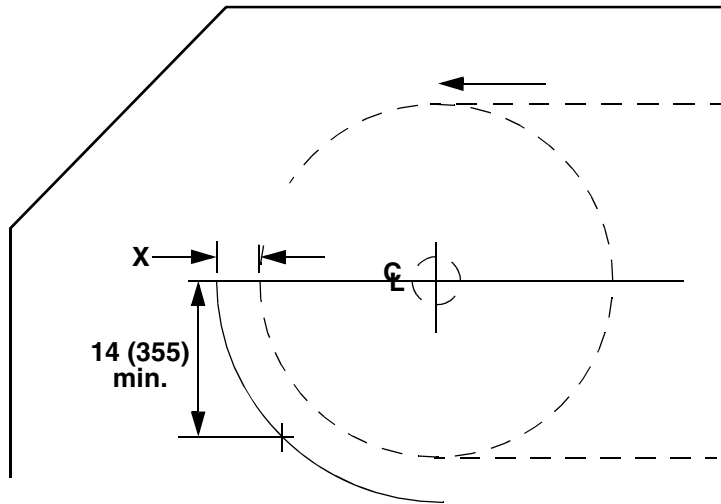


## 2 (cont)

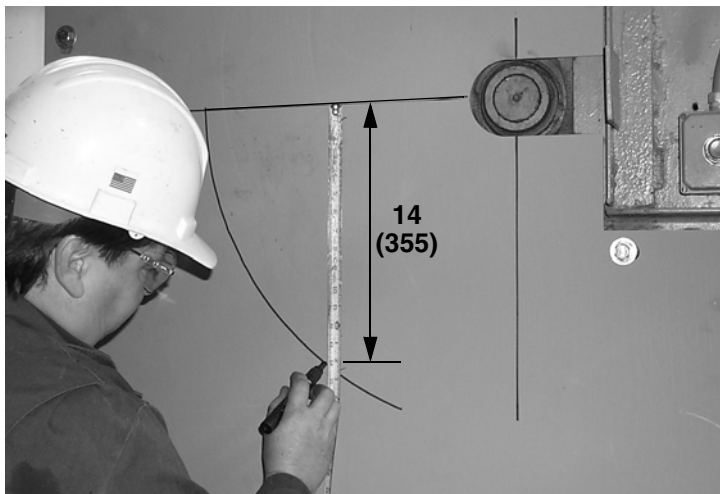
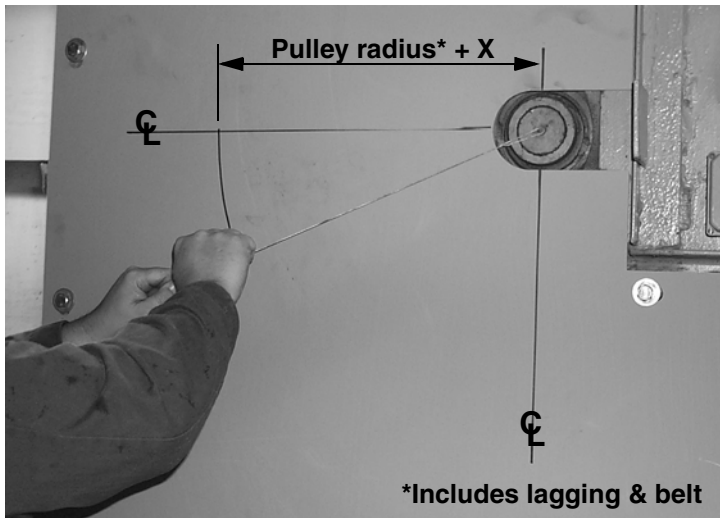


## 3

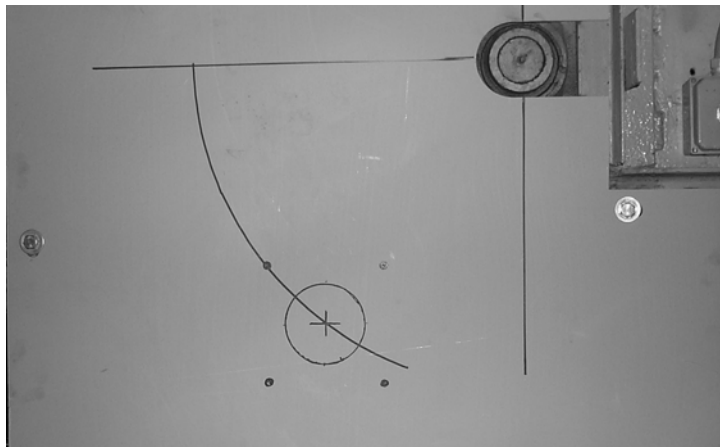
Pulley Diameter* in. (mm)	Dimension X in. (mm)
14 (356)	8.25 (210)
16 (406)	7.50 (191)
18 (457)	7.00 (178)
20 (508)	6.50 (165)
22 (559)	6.25 (159)
24 (610)	5.75 (146)
26 (660)	5.50 (140)
28 (711)	5.00 (127)
30 (762)	4.75 (121)
36 (914)	4.00 (102)
42 (1067)	3.50 (89)
*Includes lagging & belt.	



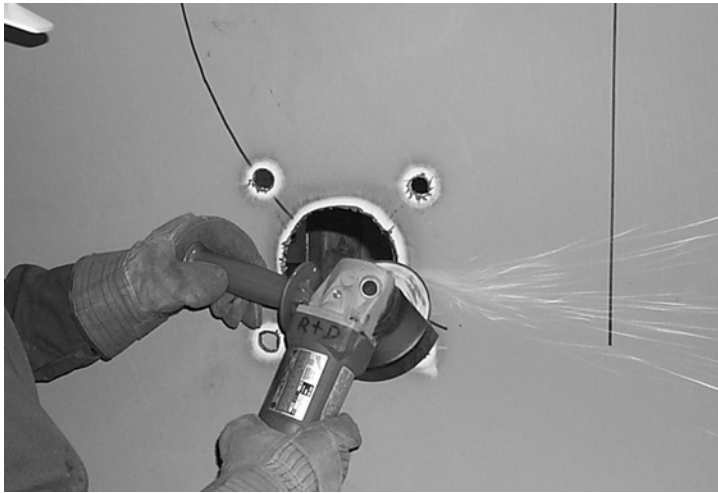
3 (cont)



4



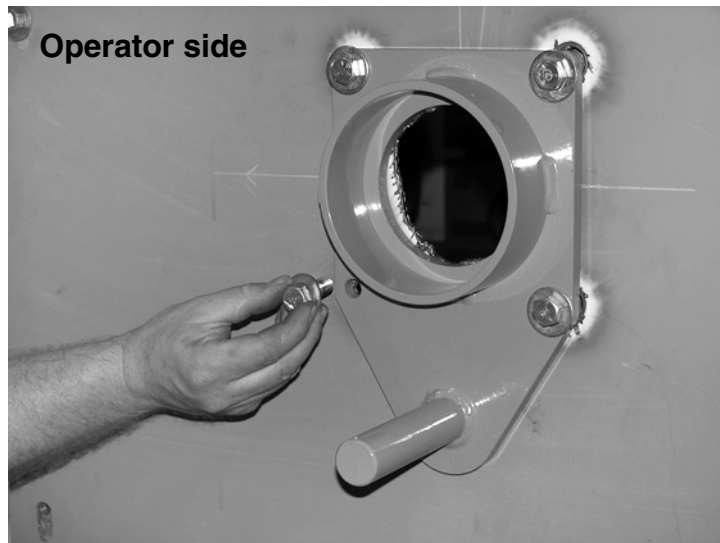
**5**



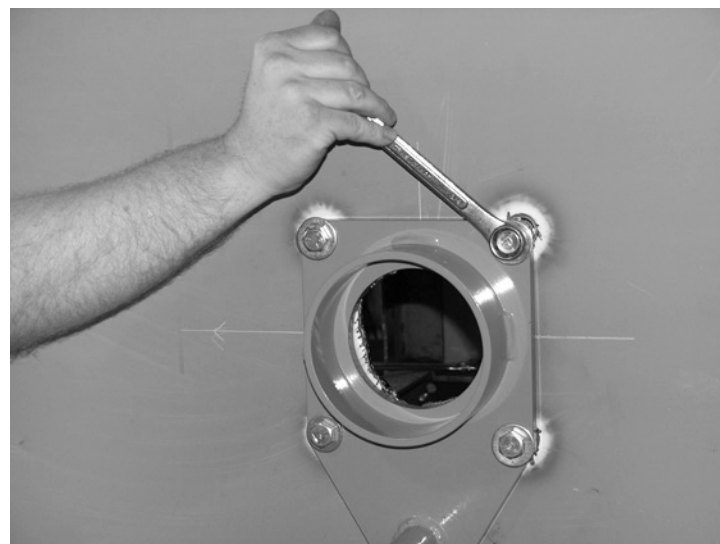
**6** Repeat steps 3, 4, and 5 on far side of chute.

*Installing  
mounting plates*

**1**



**2**

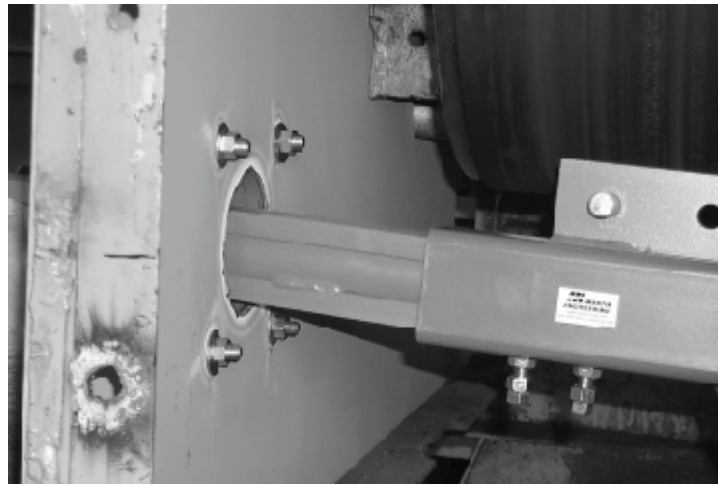
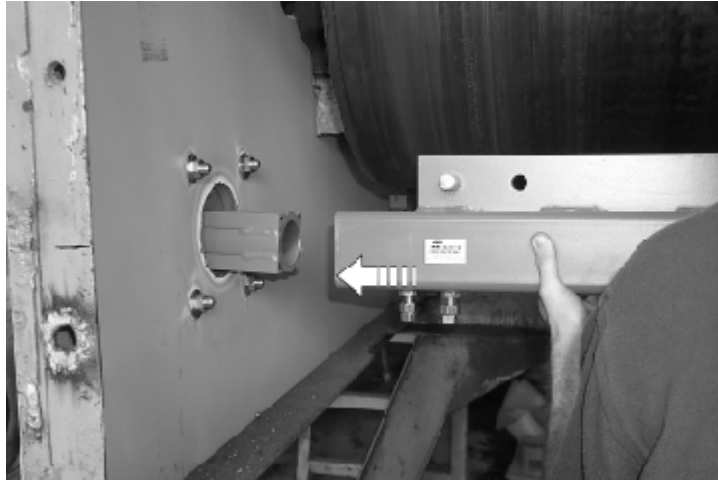


**3** For dual tensioners, repeat steps 1 and 2 on far side as shown. For single tensioner, install far side mount plate.

# Installation

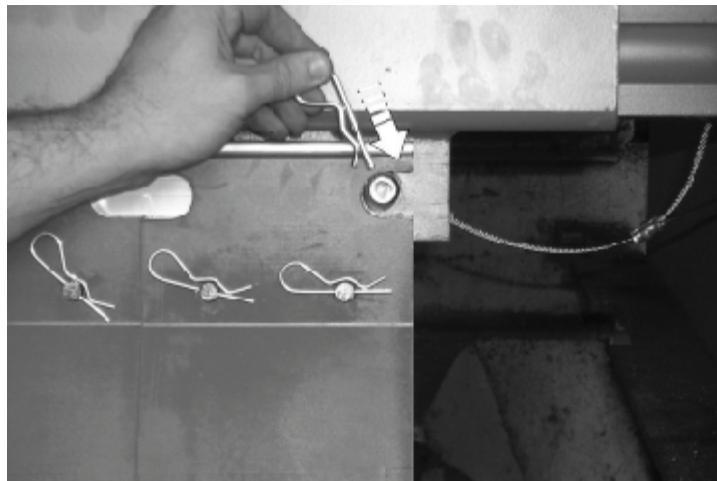
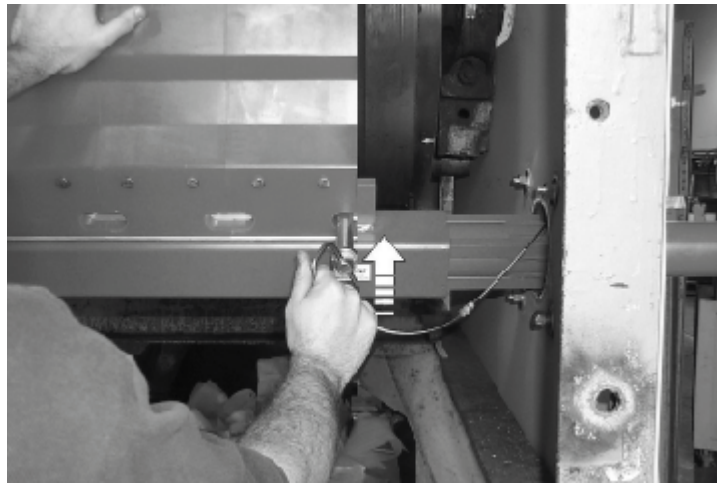
## *Installing mainframe and blade*

1





2



# Installation

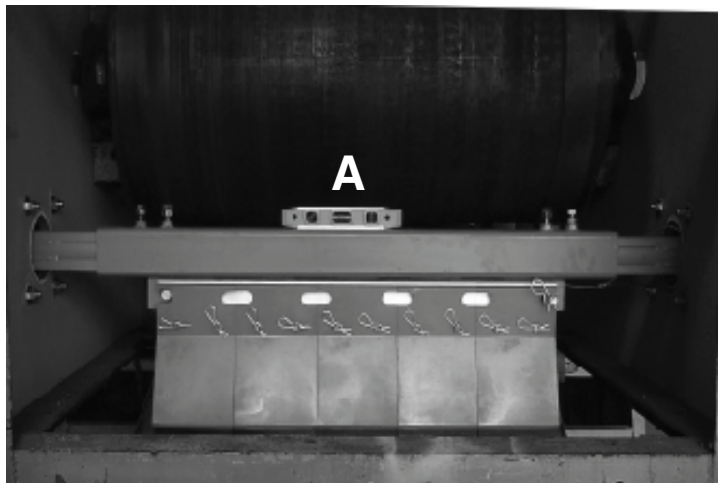
3



4

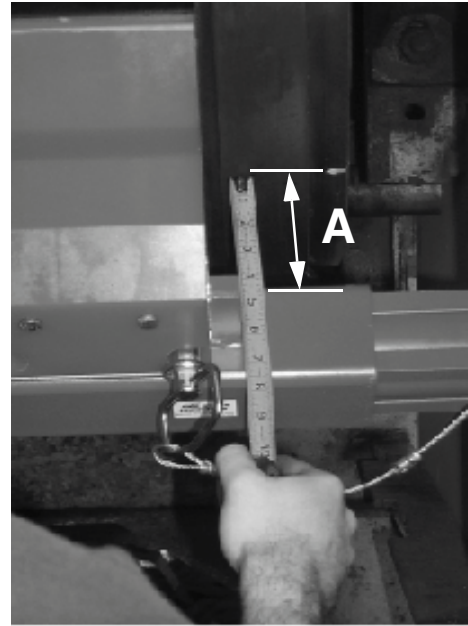
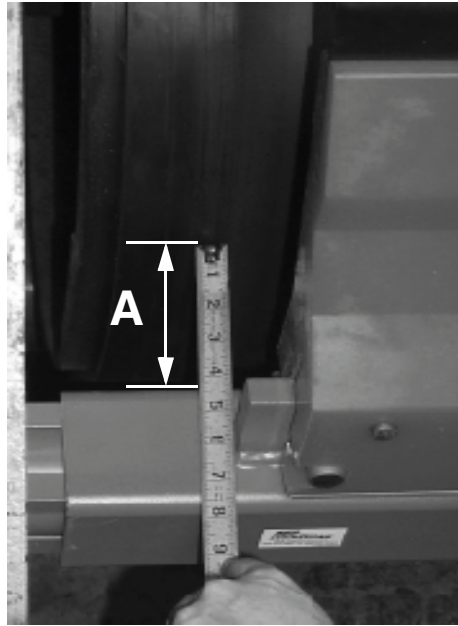


**A = A**





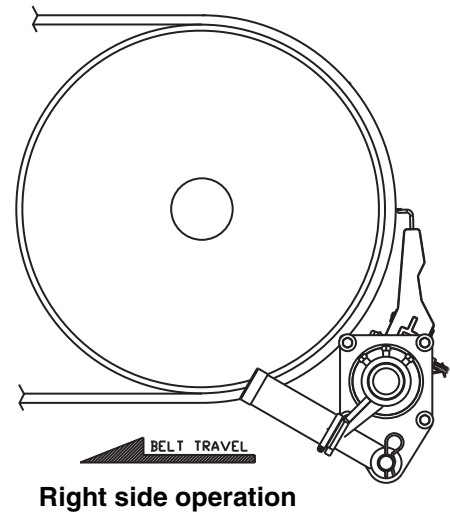
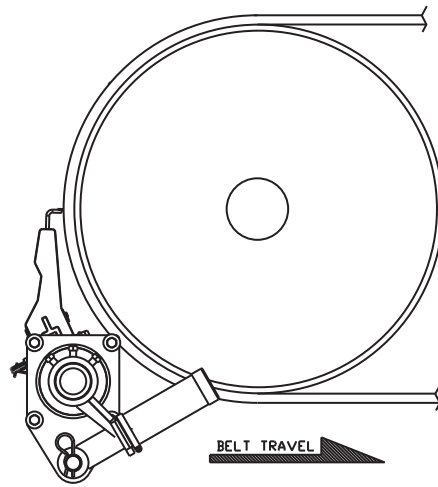
5



$$A = A$$

***Installing tensioner***

- 1 Determine the direction to install the lever arm on the tensioner depending on the belt direction, as shown below. Then install the lever arm assembly as required for your application.



**NOTE**

This procedure shows installation for left side operation.

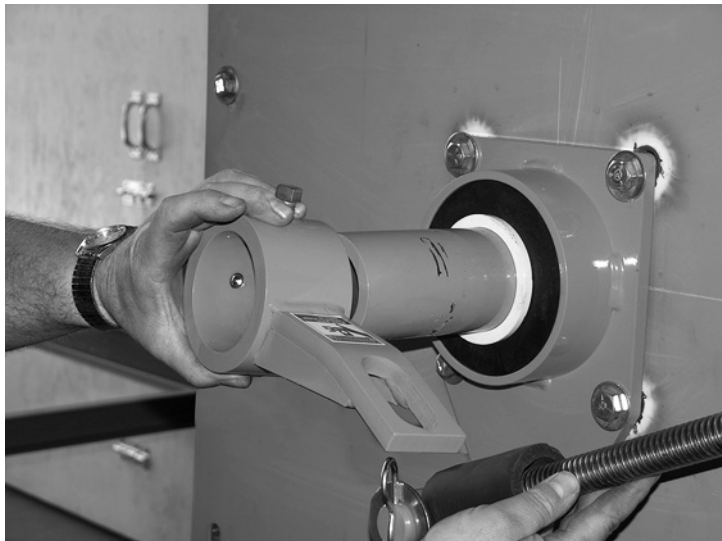
2



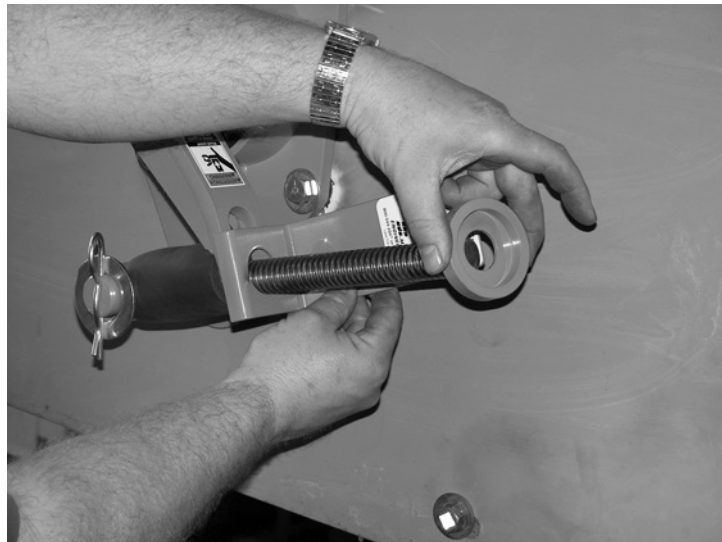
3



4

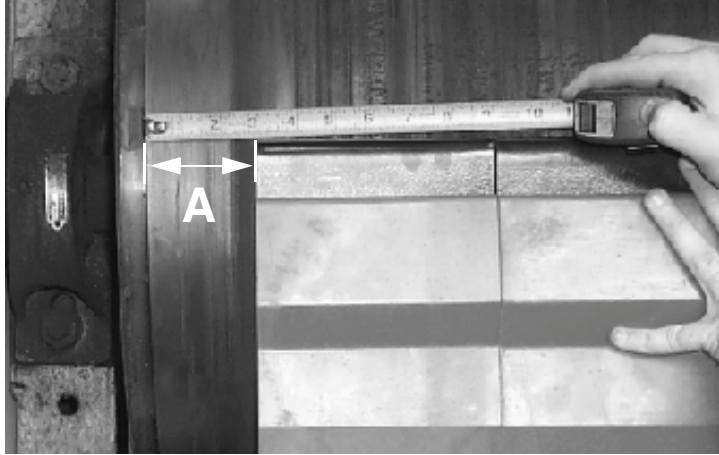


## 4 (cont)



# Installation

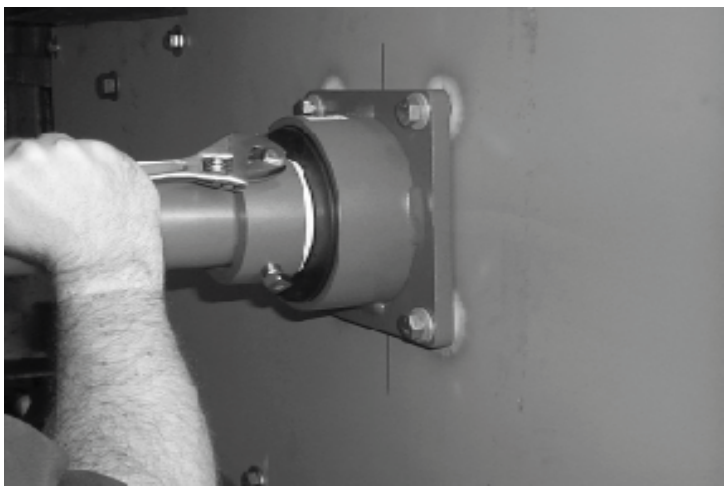
5



**A = A**



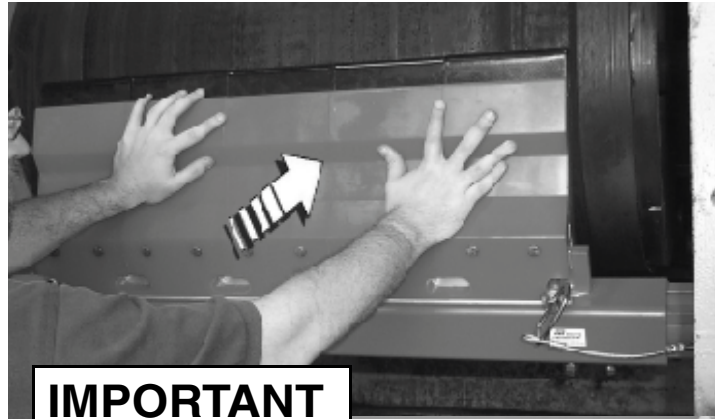
- 6** For dual tensioners, repeat steps 1 through 4 on far side. For single tensioner, See Below.



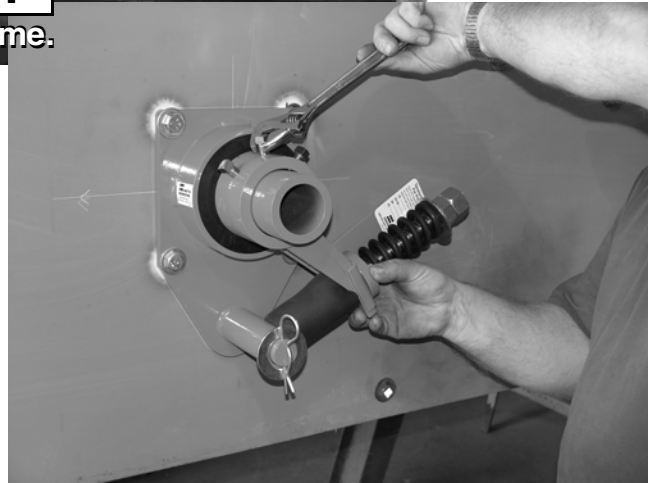
**Installation**

*Tensioning belt cleaner*

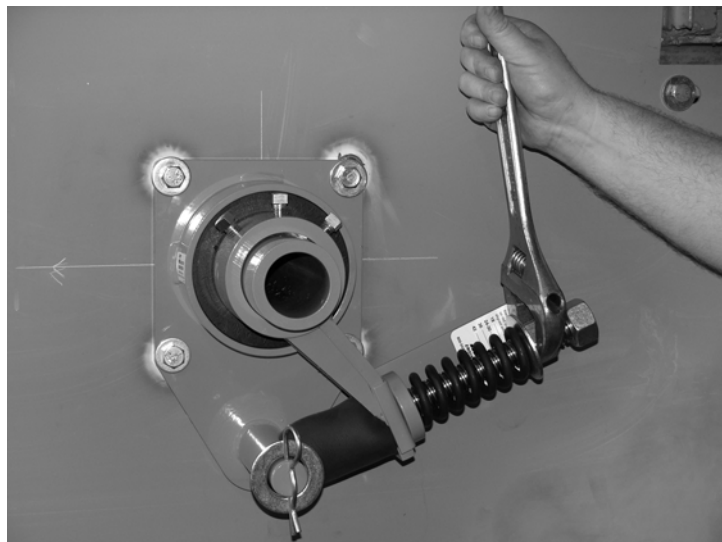
**1**



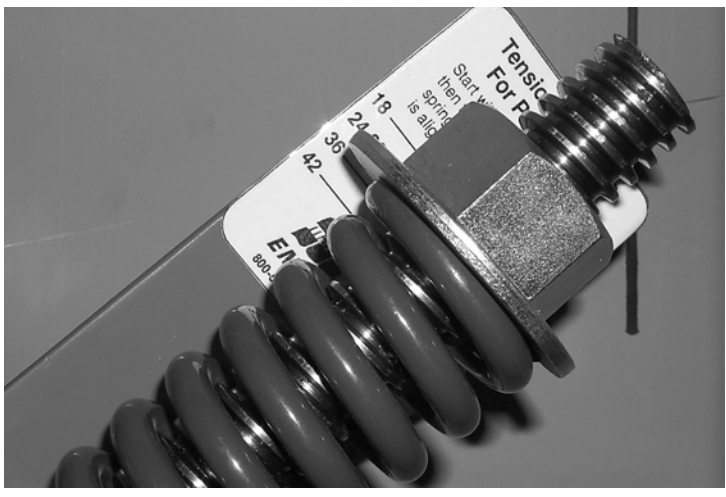
**IMPORTANT**  
Do at the same time.



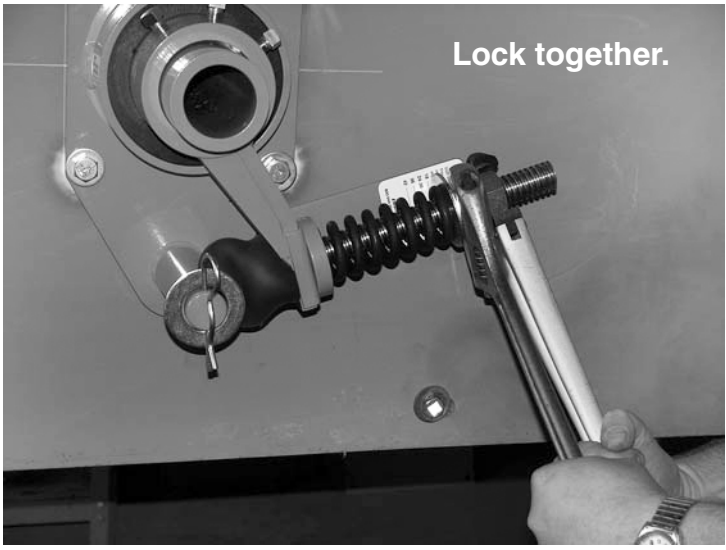
**2**



- 3 To tension the belt cleaner, turn the hex nut and compress spring until bottom of washer is aligned with correct belt width (inches) on label.

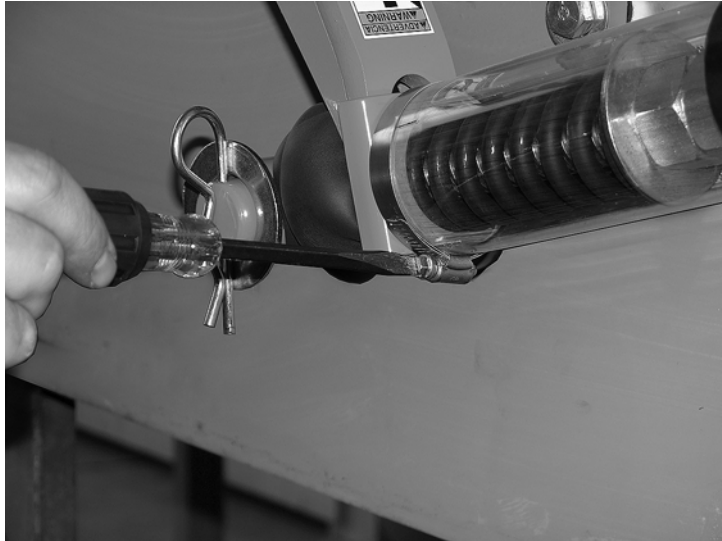
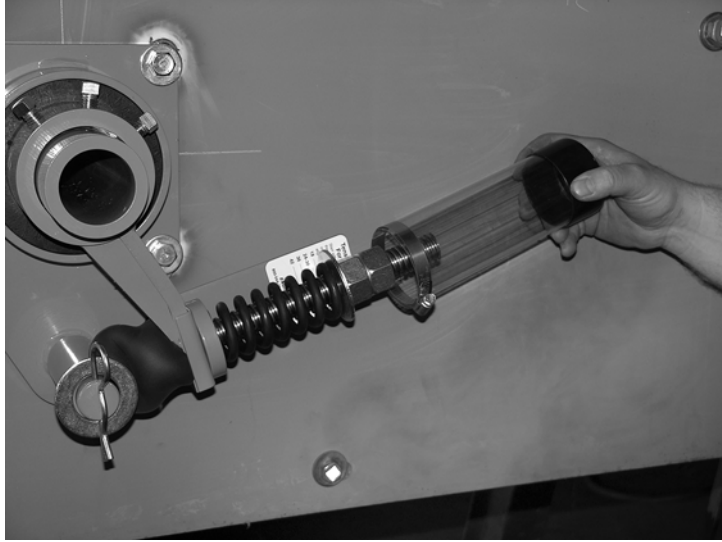


- 4



# Installation

**5**



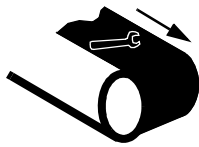
**6** For dual tensioners, repeat steps 1 through 5 on far side.



# 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.



## ⚠ 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 belt cleaner/tensioner, 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.
5. 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.)
6. 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 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 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

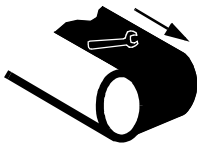
Failure to remove tools from maintenance area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

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.



# Troubleshooting

Symptom	Corrective Action
Insufficient cleaning and carryback.	<ul style="list-style-type: none"> <li>• Tension of cleaner on belt is set too low or too high. Increase or decrease tensioner setting.</li> <li>• Blades are worn. Check blades and replace if necessary.</li> </ul>
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.
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***

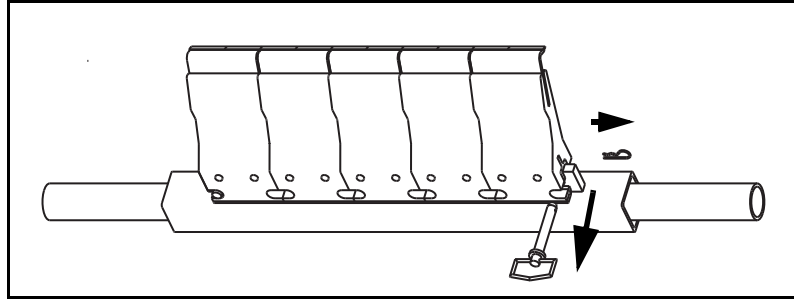
If after taking the corrective actions suggested under “Troubleshooting” you are still experiencing problems, check for the following:

Installation Checklist
✓ Pre-Cleaner mainframe is proper distance from belt surface on both ends of mainframe.
✓ 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.

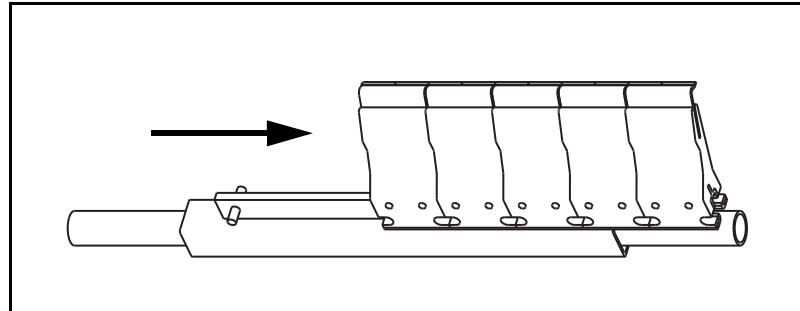
# Blade Replacement

---

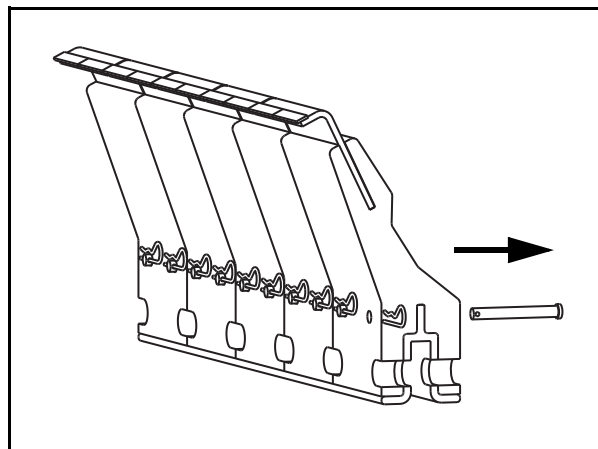
- 1** Lock out and tag out conveyor.
- 2** Release tension on cleaner.
- 3** Remove hairpin and clevis pin from mainframe.



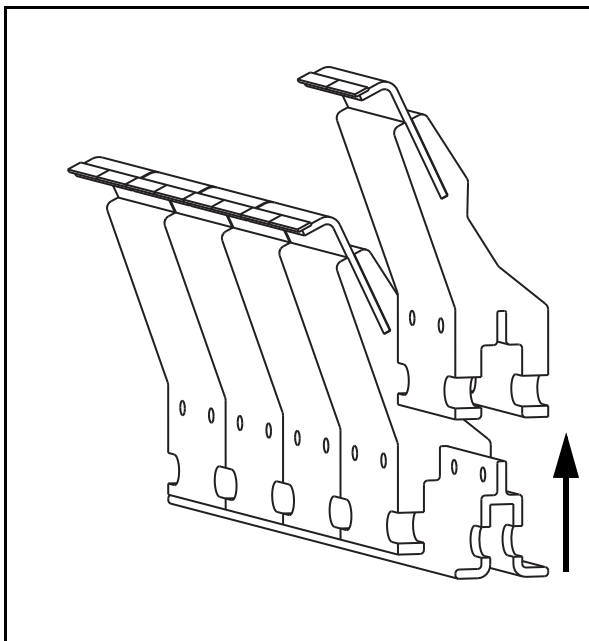
- 4** Slide existing blade cartridge off of mainframe.



- 5** Remove hairpins and clevis pins from each blade.



**6** Remove blades from metal extrusion.



**7** Replace with new blades.

**8** Replace hairpins and clevis pins on each blade.

**9** Slide cartridge back onto mainframe.

**10** Adjust cleaner tension per instructions.

## Notes

# Part Numbers

---

This section provides product names and corresponding part numbers for Martin® QC1™ Cleaner XHD with Metal Tipped Blade and related equipment. Please reference part numbers when ordering parts:

*Martin® QC1™  
Cleaner XHD with  
Metal Tipped  
Blade*

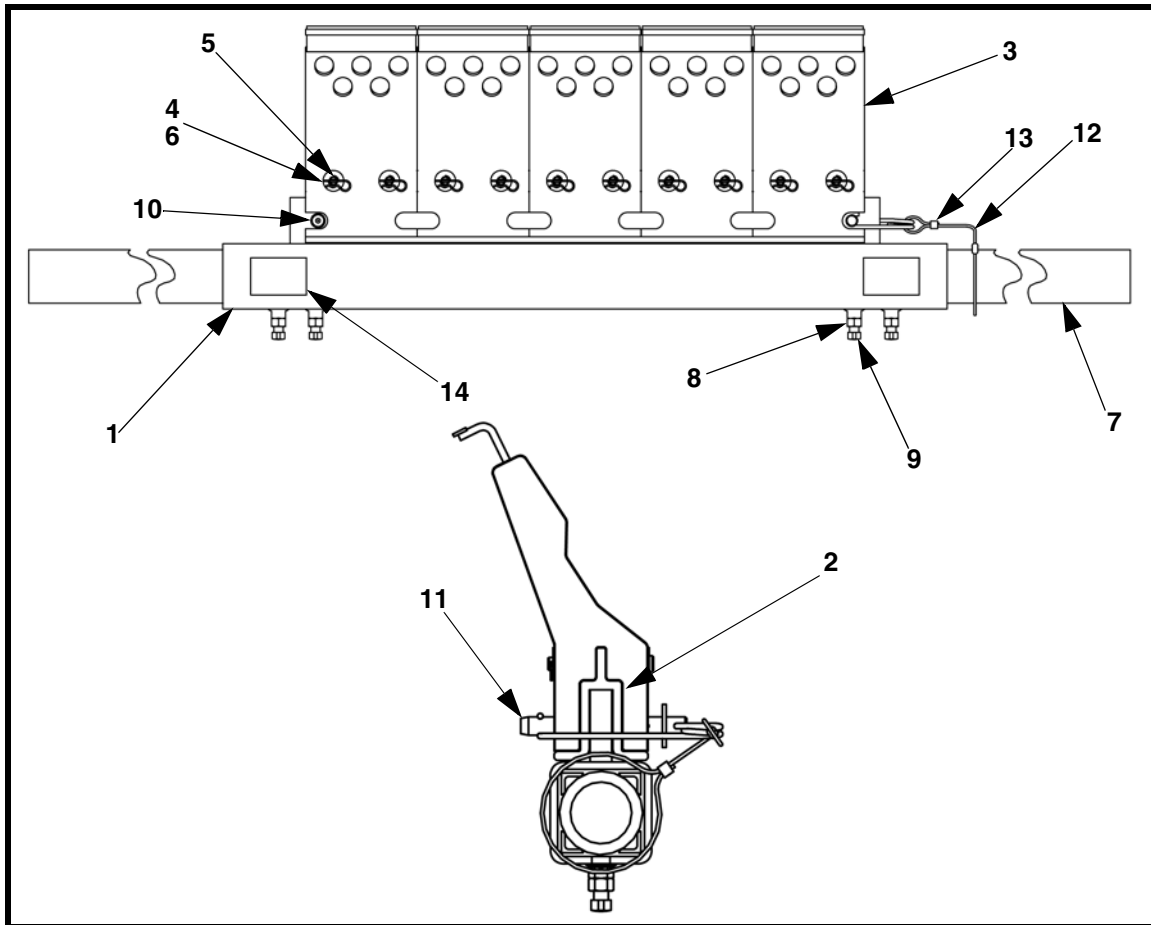
**Martin® QC1™ Cleaner XHD with Metal Tipped Blade Assembly:**  
P/N QC1X-XXMXXXXXXXX.

*Martin® Spring  
Tensioner XHD*

**Martin® Spring Tensioner XHD Assembly:** P/N 38003.

**Martin® Dual Spring Tensioner XHD Assembly:** P/N 38003-2.

# Part Numbers



Item	Description	Part no.	Qty
1	Mainframe Weldment	Table I	1
2	Adapter Extrusion	Table I	1
3	Blade Assembly	37769-0	Table I
4	Washer	18379	Table I
5	Pin Clevis 7/16 x 3-1/2 ZP	37048	Table I
6	Cotter Hairpin .07 Dia. x 1.44 ZP	26670	Table I
7	XHD End Weldment	Table I	2
8	Nut Hex 1/2-13NC ZP	11771	4
9	Screw SHS 1/2-13NC x 1-1/2 SS	33190	4
10	Pin Knurled 3/4 Dia. ZP	36046	1
11	Pin Snap Lock 5/8 x 4.00 ZP	36976	1
12	Cable Aircraft 1/8 Dia.	100107	2.5
13	Cable Clip for 1/8 Dia. Cable	23481	2
14	Label Martin® Product	38048	2
15 (NS)	Martin® Extra Heavy Duty Spring Arm Tensioner	Table I	1
16 (NS)	Operator's Manual	M3722	1

**Figure 1. Martin® QC1™ Cleaner XHD with Metal Tipped Blade Assembly, P/N QC1X-XXMXXXXXXXX\***



\*The first XX indicates belt width. The M indicates metal-tipped blade. The next X indicates blade type: no blades (0), mild steel tungsten carbide tipped blade (T), or corrosion resistant tungsten carbide tipped blade (C). The next XX indicates blade coverage. The next XX indicates blade color no blades (00) or orange (OR). The next X indicates mainframe type: standard-duty (P) or stainless steel (S). The last X indicates accessory options: no options (0) or Martin® Spring Tensioner (S).

**Table I. Martin® QC1™ Cleaner XHD with Metal Tipped Blade  
Part Numbers and Quantities**

Part No.	Dim. A Blade Length	Dim. B Frame Length	Part No. Item 1	Part No. Item 2	Part No. Item 7	Part No. Item 15
QC1X-18X12XXXX	12.04 (306)	66.00 (1676)	36231-18	37766-12	32332-03	38003
QC1X-24X12XXXX	12.04 (306)	72.00 (1829)	36231-24	37766-12	32332-03	38003
QC1X-24X18XXXX	18.06 (459)	72.00 (1829)	36231-24	37766-18	32332-03	38003
QC1X-30X18XXXX	18.06 (459)	78.00 (1981)	36231-30	37766-18	32332-03	38003
QC1X-30X24XXXX	24.08 (612)	78.00 (1981)	36231-30	37766-24	32332-03	38003
QC1X-36X24XXXX	24.08 (612)	84.00 (2134)	36231-36	37766-24	32332-04	38003
QC1X-36X30XXXX	30.10 (765)	84.00 (2134)	36231-36	37766-30	32332-04	38003
QC1X-42X30XXXX	30.10 (765)	90.00 (2286)	36231-42	37766-30	32332-04	38003
QC1X-42X36XXXX	36.12 (917)	90.00 (2286)	36231-42	37766-36	32332-04	38003
QC1X-48X36XXXX	36.12 (917)	96.00 (2438)	36231-48	37766-36	32332-04	38003
QC1X-48X42XXXX	42.14 (1070)	96.00 (2438)	36231-48	37766-42	32332-04	38003-2
QC1X-54X42XXXX	42.14 (1070)	102.00 (2591)	36231-54	37766-42	32332-04	38003-2
QC1X-54X48XXXX	48.16 (1223)	102.00 (2591)	36231-54	37766-48	32332-04	38003-2
QC1X-60X48XXXX	48.16 (1223)	108.00 (2743)	36231-60	37766-48	32332-04	38003-2
QC1X-60X54XXXX	54.18 (1376)	108.00 (2743)	36231-60	37766-54	32332-04	38003-2
QC1X-66X54XXXX	54.18 (1376)	114.00 (2896)	36231-66	37766-54	32332-04	38003-2
QC1X-66X60XXXX	60.20 (1529)	114.00 (2896)	36231-66	37766-60	32332-04	38003-2
QC1X-72X60XXXX	60.20 (1529)	120.00 (3048)	36231-72	37766-60	32332-04	38003-2
QC1X-72X66XXXX	66.22 (1682)	120.00 (3048)	36231-72	37766-66	32332-04	38003-2

**Table I. Martin® QC1™ Cleaner XHD with Metal Tipped Blade  
Part Numbers and Quantities**

Part No.	Qty Item 3	Qty Item 4	Qty Items 5 & 6
QC1X-18X12XXXX	2	8	4
QC1X-24X12XXXX	2	8	4
QC1X-24X18XXXX	3	12	6
QC1X-30X18XXXX	3	12	6
QC1X-30X24XXXX	4	16	8
QC1X-36X24XXXX	4	16	8
QC1X-36X30XXXX	5	20	10
QC1X-42X30XXXX	5	20	10
QC1X-42X36XXXX	6	24	12
QC1X-48X36XXXX	6	24	12
QC1X-48X42XXXX	7	28	14
QC1X-54X42XXXX	7	28	14
QC1X-54X48XXXX	8	32	16
QC1X-60X48XXXX	8	32	16
QC1X-60X54XXXX	9	36	18
QC1X-66X54XXXX	9	36	18
QC1X-66X60XXXX	10	40	20
QC1X-72X60XXXX	10	40	20
QC1X-72X66XXXX	11	44	22

Assy/Blade part no. suffix	Blade color	Blade types	Durometer (Shore A)	Temperature °F (°C)*	Max. belt speed fpm (m/s)
None	Orange	Standard	90	-20 to 160 (-29 to 71)	1200 (6)
BR	Brown	Chemical resistant	95	-40 to 160 (-40 to 71)	1200 (6)

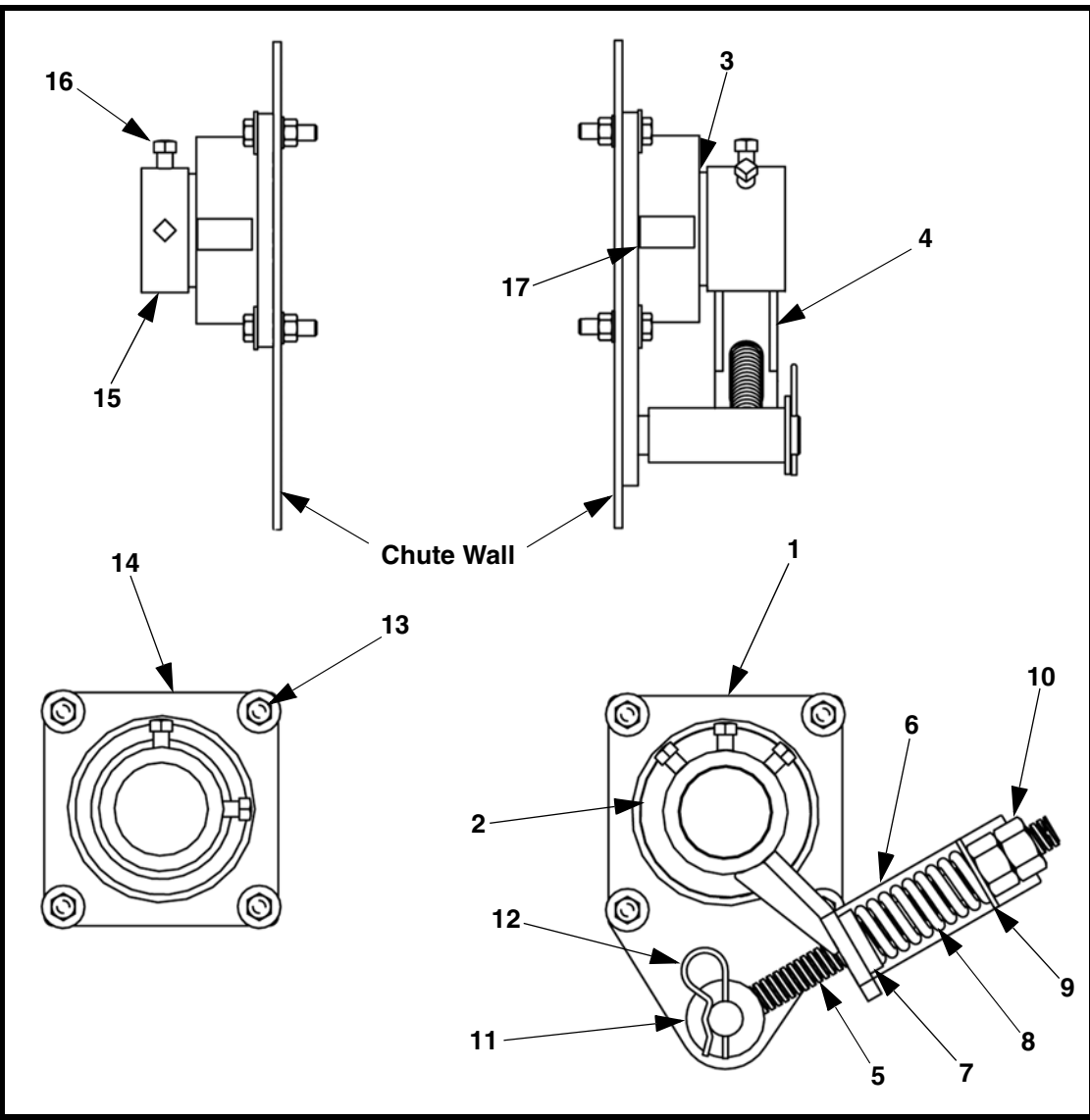
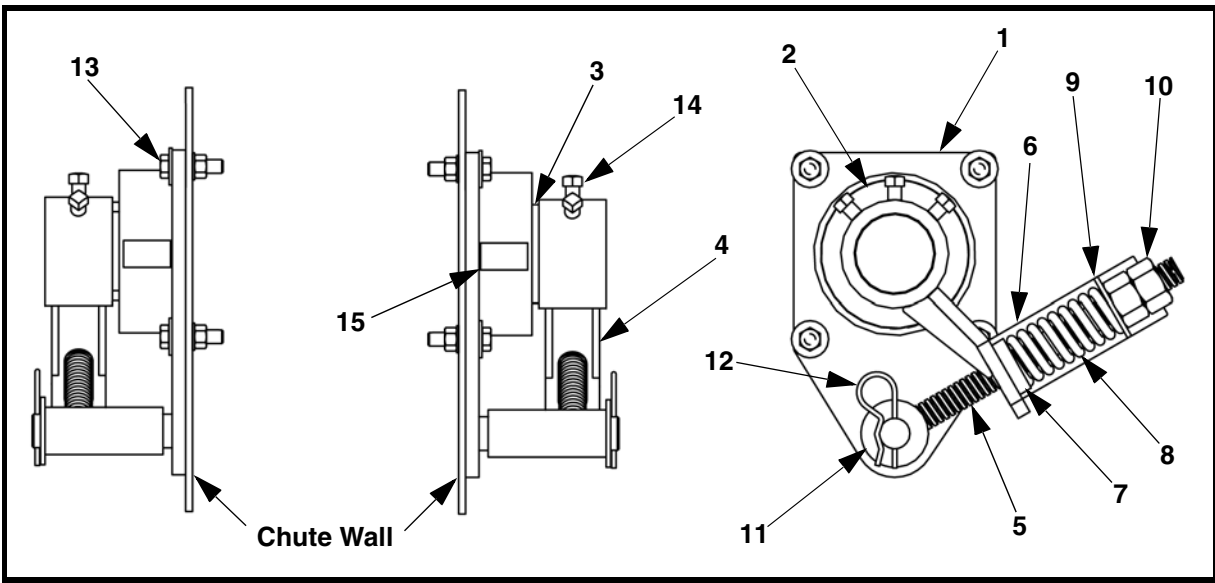


Figure 2. Martin® Spring Tensioner XHD Assembly, P/N 38003

# Part Numbers

Item	Description	Part No.	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	2
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
14	Farside Mount Weldment	32342	1
15	Locking Collar	32341	1
16	Screw SHS 1/2 - 13 NC x 1.55	22763-03	5
17	Label Pinch Point Warning	30528	1
NS	Tube Clear	34063-08	1
NS	Clamp Hose 2.06 Min. x 3.00 Max.	20339-11	1
NS	Cap Tube 2.75	34054	1
NS	Spring Cover	32245-04	1
Fig. 6	Label Martin <sup>®</sup> XHD Spring Tensioner	36055-P1	1
NS	Label Martin Products	32238	2
Fig. 4	Label Conveyor Products Warning	23395	2
NS	Manual Operator's	M3512	1

NS = Not Shown



**Figure 3. Martin® Dual Spring Tensioner XHD Assembly, P/N 38003-2**

Item	Description	Part No.	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	36015	4
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	32315	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
14	Screw SHS 1/2 - 13 NC x 1.55	22763-03	6
15	Label Martin Products	32238	2
NS	Tube Clear	34063-08	2
NS	Clamp Hose 2.06 Min. x 3.00 Max.	20339-11	2
NS	Cap Tube 2.75	34054	2
NS	Spring Cover	32245-04	2
Fig. 7	Label Martin® XHD Spring Tensioner	36055-P2	2
Fig. 5	Label Pinch Point Warning	30528	2
Fig. 4	Label Conveyor Products Warning	23395	2
NS	Manual Operator's	M3512	1

NS = Not Shown

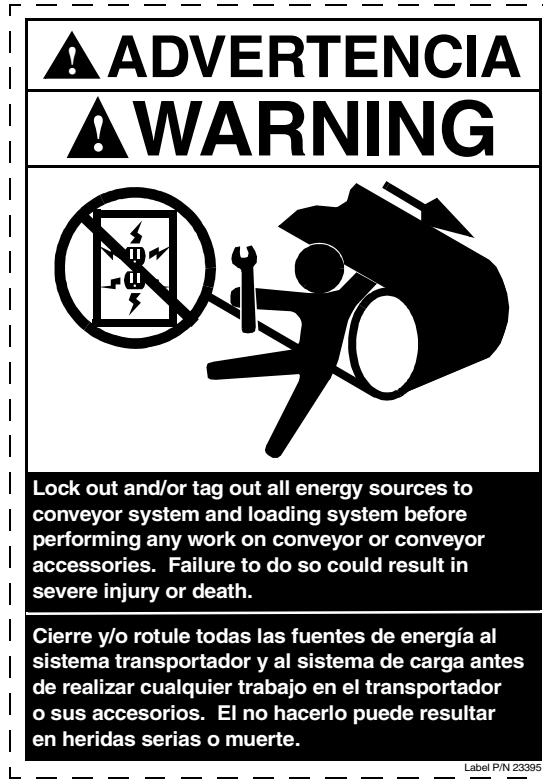


Figure 4. Conveyor Products Warning Label, P/N 23395



Figure 5. Pinch Point Warning Label, P/N 30528



Figure 6. Martin<sup>®</sup> Spring Tensioner XHD Label, P/N 36055-P1



Figure 7. Martin<sup>®</sup> Spring Tensioner XHD Label, P/N 36055-P2

## Notes



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