

martin®

Martin® ***DT2S*** ***Reversing Cleaner***

[Go to Martin® DT2S Reversing Cleaner web page](#)



Operator's Manual
M3687

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/Tables	ii
Introduction	1
General	1
Installations Without Chutework	1
Belt Cleaner Inspection Access	1
References	1
Materials Required	1
Urethane Shelf Life	2
Safety	3
Before Installing Belt Cleaner	4
Installing Belt Cleaner	5
Converting Bottom Mount Spring Tensioners to Top Mount	5
Locating Cleaner Centerline	7
Marking Chute Cutouts	8
Adjusting the Spring Tensioner	11
Adjusting the Air Tensioner	12
After Installing Belt Cleaner	14
Maintenance	16
Routine Inspection/Tension	16
Blade Servicing	16
Troubleshooting/Installation Checklist	18
Troubleshooting	18
Installation Checklist	18
Part Numbers	19

List of Figures

Figure	Title	Page
1	Spring Tensioner Conversion	6
2	Primary Belt Direction	7
3	Chute Cutout Detail	8
4	Position Belt Cleaner	9
5	Spring Tensioner Operation	11
6	Air Tensioner Operation	13
7a	Cleaner Changing Belt Line	14
7b	Cleaner with Belt Support	14
8	Martin [®] DT2S Reversing Cleaner, P/N DT2S-XXXXXXXX	20
9	Martin [®] DT2S Reversing Cleaner Cartridge, P/N DT2SC-XXXXXXXX	23
10	Martin [®] Inline Spring Tensioner, P/N 37707	26
11	Martin [®] Inline Air Tensioner, P/N 37707-A	28
12	Conveyor Products Warning Label, P/N 23395	29
13	Pinch Point Warning Label, P/N 30528	29

List of Tables

Table	Title	Page
I	Urethane Shelf Life	2
II	Recommended Spring Tension and Air Pressure	12
III	Martin [®] DT2S Reversing Cleaner	21
IV	Martin [®] DT2S Reversing Cleaner Cartridge	24

Introduction

General

The Martin[®] DT2S Reversing Cleaner is used in conjunction with a head pulley primary cleaner such as a Martin[®] Primary Cleaner.

The Martin[®] DT2S Reversing Cleaner contacts the belt as it leaves the head pulley or another accessible position on the return belt with proper support. The blades of the Martin[®] DT2S Reversing Cleaner, when tensioned, lay in the direction of belt travel giving a negative angle and presenting no snag or danger to the belt or splices.

The Martin[®] DT2S Reversing Cleaner can be supplied or retrofitted with a variety of cleaning blades.

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.

The Martin[®] Reversing Hanger Mount Weldment, P/N 33282, can be used for installations without chutework.

Belt Cleaner Inspection Access

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

References

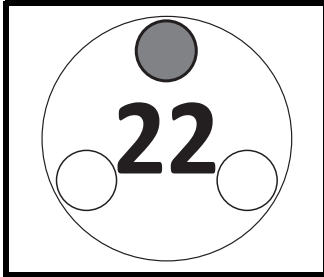
The following documents are referenced in this manual:

- 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.

Materials Required

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

Urethane Shelf Life



IMPORTANT

Urethane put in service after exceeding its 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, “22” stands for the year 2022. 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 I. Urethane Shelf Life

Blade Color	Shelf Life
Blue	1 Year from Code Date
Brown	2 Years from Code Date
Clear	1 Year from Code Date
Green	2 Years from Code Date
Orange	1 Year from Code 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.



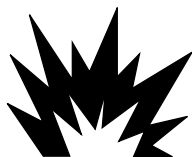
⚠ DANGER

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.



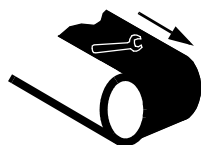
⚠ DANGER

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.

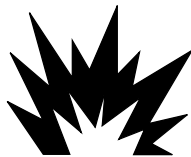
1. Inspect shipping container for damage. Report damage to delivery service immediately and fill out delivery service's claim form. Keep any damaged goods subject to examination.
2. Remove belt cleaner from shipping container. Equipment in container should include the following:
 - Martin® DT2S Reversing Cleaner (mainframe, tensioner, and blades).
 - Two Conveyor Products Warning Labels, P/N 23395.
 - Two Pinch Point Warning Labels, P/N 30528.



⚠ 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.

3. 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.

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

NOTE

The chute wall that is easiest to access is referred to as the "operator side." The other side of the chute is referred to as the "far side."

5. Determine which side of chute is easiest to access. Locate the operator side tensioner on the most accessible chute wall and the far side tensioner on the other side of the chute.

Installing Belt Cleaner

IMPORTANT

Read entire section before beginning work.

To install the belt cleaner, follow the procedures corresponding to the following steps:

⚠ WARNING

If installation is to be done in an enclosed area, test atmosphere for gas level or dust content. Follow all welding and safety guidelines. Protect belt surface from weld splatter with appropriate shield.

NOTE

For original equipment installation, where cleaner cutouts and brackets have been fabricated into the chute during construction, ignore steps 1, 2, and 3.

NOTE

Solid backing of the blade is essential to ensure proper operation and efficient cleaning. Install the cleaner adjacent to the head pulley or a flat pressure roller to obtain best cleaning results. See Figure 2.

NOTE

For installation on enclosed head pulley chutework, draw all dimension lines on chute wall. In applications where head pulley is not enclosed, use the best available field resources and/or methods to ensure that these critical dimensions are followed for a proper installation.

Converting Bottom Mount Spring Tensioners to Top Mount

1. If using spring tensioner, determine how much space is available for spring tensioner installation. If necessary, convert bottom mount spring tensioner to top mount before installing. See Figure 1.

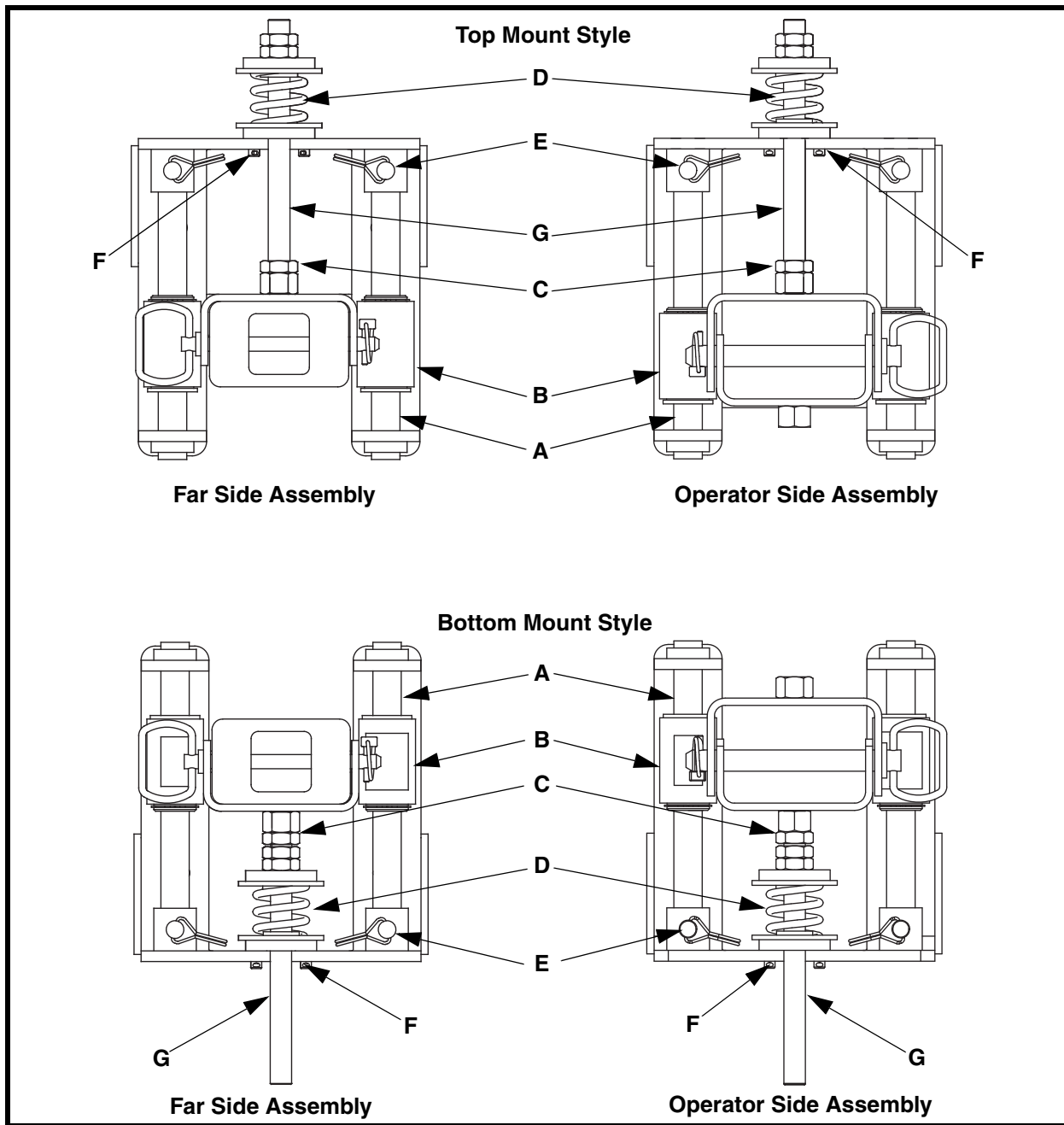


Figure 1. Spring Tensioner Conversion

2. Convert operator side assembly as follows:
 - a. Loosen jam nut (C).
 - b. Remove cotter pins (F).
 - c. Remove threaded rod (G) and spring assembly (D) from slide bracket (B).
 - d. Install jam nut (C) on opposite end of threaded rod.
 - e. Remove pins (E) and guide rods (A) from mount bracket.
 - f. Rotate slide bracket 180 degrees and reinstall guide rods and pins.
 - g. Rotate threaded rod and spring assembly 180 degrees and install on top of mount plate. Install threaded rod into slide bracket.
 - h. Install cotter pins.

3. Convert far side assembly as follows:
 - a. Loosen jam nut (C).
 - b. Remove cotter pins (F).
 - c. Remove threaded rod (G) and spring assembly (D) from slide bracket (B).
 - d. Install jam nut (C) on opposite end of threaded rod.
 - e. Rotate threaded rod and spring assembly 180 degrees and install on top of mount plate. Install threaded rod into slide bracket.
 - f. Install cotter pins.

Locating Cleaner Centerline

1. On the return side of the belt, locate the tangent point at which the belt leaves the head pulley. Measure a distance 2.0 in. (51 mm) and draw a line perpendicular to the belt at this point. See Figure 2.

NOTE

For installation below pressure rollers, mark the vertical line 2 in. (51 mm) from the centerline of the roller. See Figure 2.

2. This line represents the centerline of the Martin® DT2S Reversing Cleaner and the cleaner mount brackets.

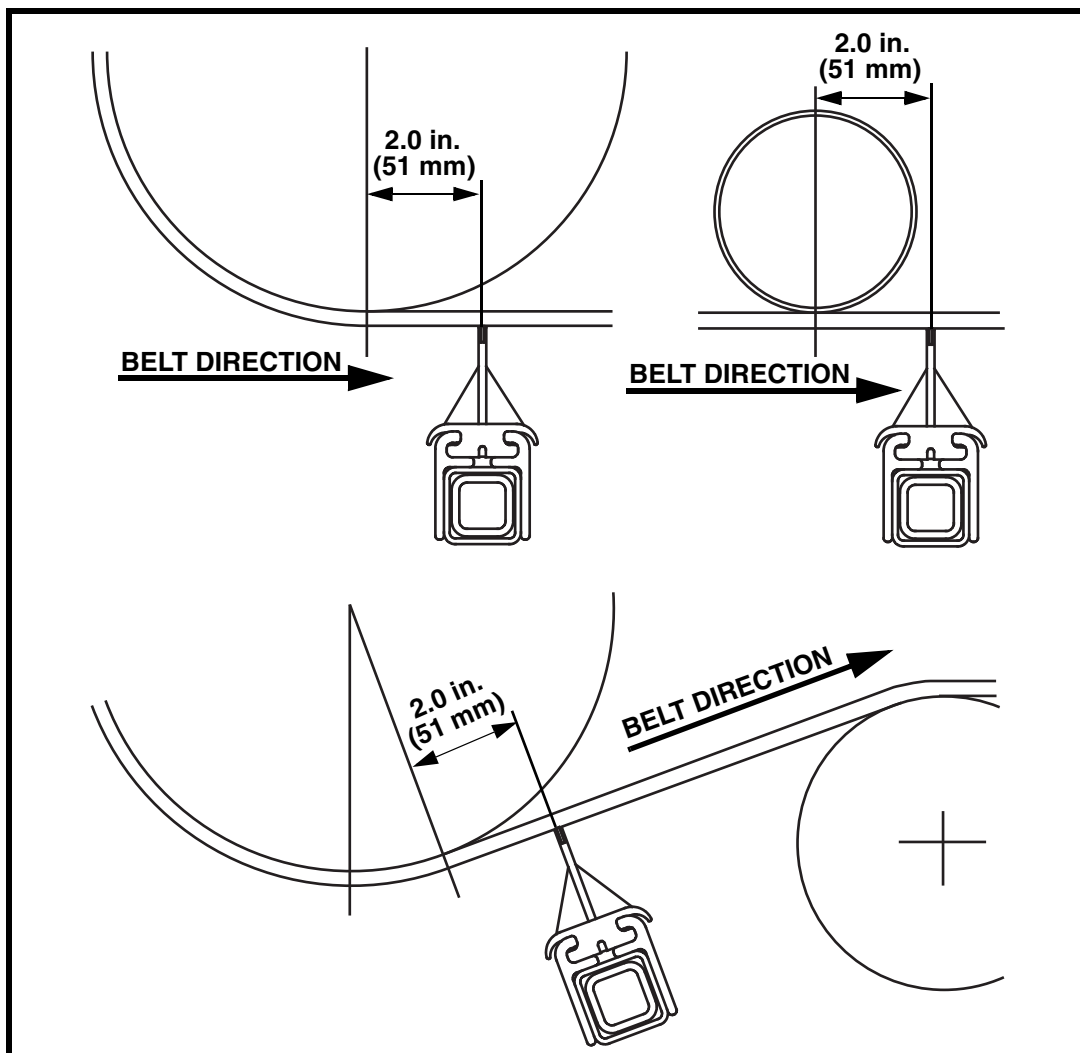


Figure 2. Primary Belt Direction

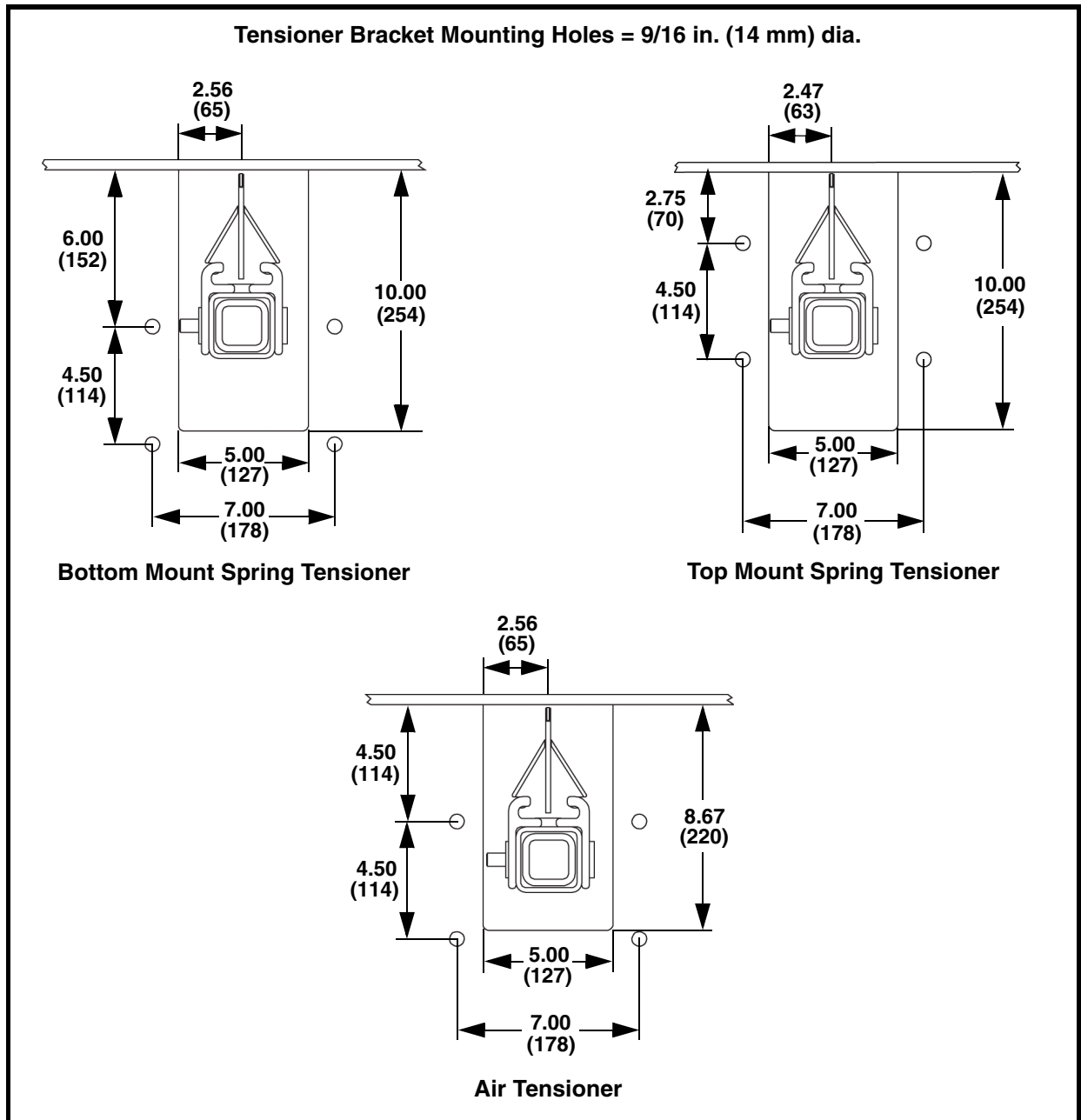


Figure 3. Chute Cutout Detail

Marking Chute Cutouts

1. Using the previously marked line as the centerline, mark the chute cutout and mount hole locations as shown in Figure 3. Repeat on both sides of chute, ensuring the cutouts are accurately aligned with each other.

NOTE

The mount hole dimension below the belt differs for air- or spring-tensioned models. Make sure that you are using correct dimensions and verify cleaner position before proceeding.

2. At the selected mounting positions, cut the cleaner access slots and drill the mount holes in each side of the chute. Dress and de-burr the holes and cutouts.
3. If belt width is 54" or larger, replace 1-3/4" long spring, upper flat washer and UHMW spring retainer with 2" long spring and 3/4" washer included.
4. Fit operator side mount bracket to the chute wall. Bolt mount to the chute wall.
5. Repeat for far side mount bracket.
6. Fit the cleaner mainframe to the mounts. Slide the mainframe into one of the mount brackets, through the cutout in the chute wall, then through the cutout and mount on the opposite side.

NOTE

The mainframe has holes at one end. This is the end that fits to the operator side mount.

7. Align the end of the mainframe with the outer edge of the operator side mount bracket and refit the locking screw, taking care to fit the air line bracket under the screw (air tensioner models only). At the far side mount, tighten the lock screw onto the mainframe.

NOTE

The mainframe in most cases will have excess length. If required, this excess can be trimmed from the far side end.

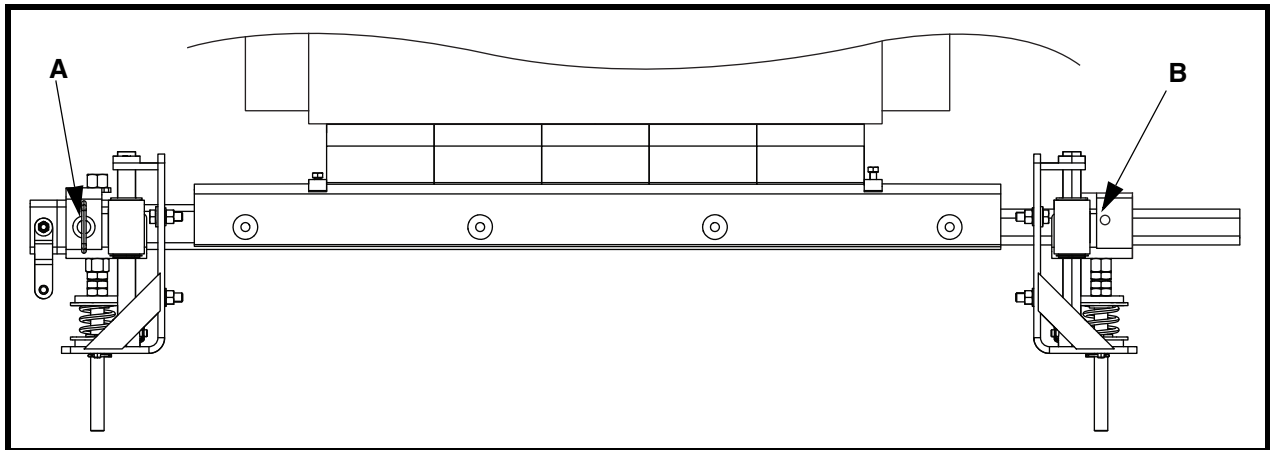


Figure 4. Position Belt Cleaner

8. Slide the blade cartridge onto the mainframe from the operator side.
9. Insert pin (A) through tensioner and mainframe.
10. Use tensioner as guide and drill 9/16 in. hole (B) through mainframe on far side.
11. If the cartridge is too long, excess can be trimmed from the far side. If not already done, fit the cleaning blades to the cartridge. Center the blades to the belt by loosening and re-positioning the blade end stops. Insert the blade cartridge retaining pins.

12. With the cleaner tensioner in a fully retracted position, the cleaning blades should be approximately .5 in.–.75 in. (13 mm–19 mm) clear of the underside of the belt and this distance should be equal across the width of the belt.
13. If necessary, loosen and adjust the mounts up or down to achieve this clearance.
14. Once all clearances are correct, thoroughly check all mounting and locking screws to ensure they are tight and the cleaner is secured.
15. For the air-tensioned model only, connect the air tube to the fittings in the far side airbag on the underside of the mount bracket. See Figure 6.
16. Pass the tube through the mainframe. (Make sure tube is located underneath handle.) Connect the tube to the tee air fitting in the operator side airbag adjusting the tube length to suit by cutting.
17. Connect the other side of the tee fitting to the incoming regulated compressed air supply or to the outlet of air regulator kit, if used. Connect the plant air supply or air supply kit to the inlet side of the regulator kit.

Adjusting the Spring Tensioner

1. Loosen the lock nut above the spring. Repeat for both sides.
2. Turn adjusting nut (equally on both sides) until cleaner blades are lightly touching the belt.
3. Ensure the blade position is equal across belt and blades are lightly touching across belt width.
4. Continue turning the adjusting nut equally on both sides until the spring-compressed length is the same as indicated in Table II.
5. Tighten the lock nuts against the adjusting nuts.

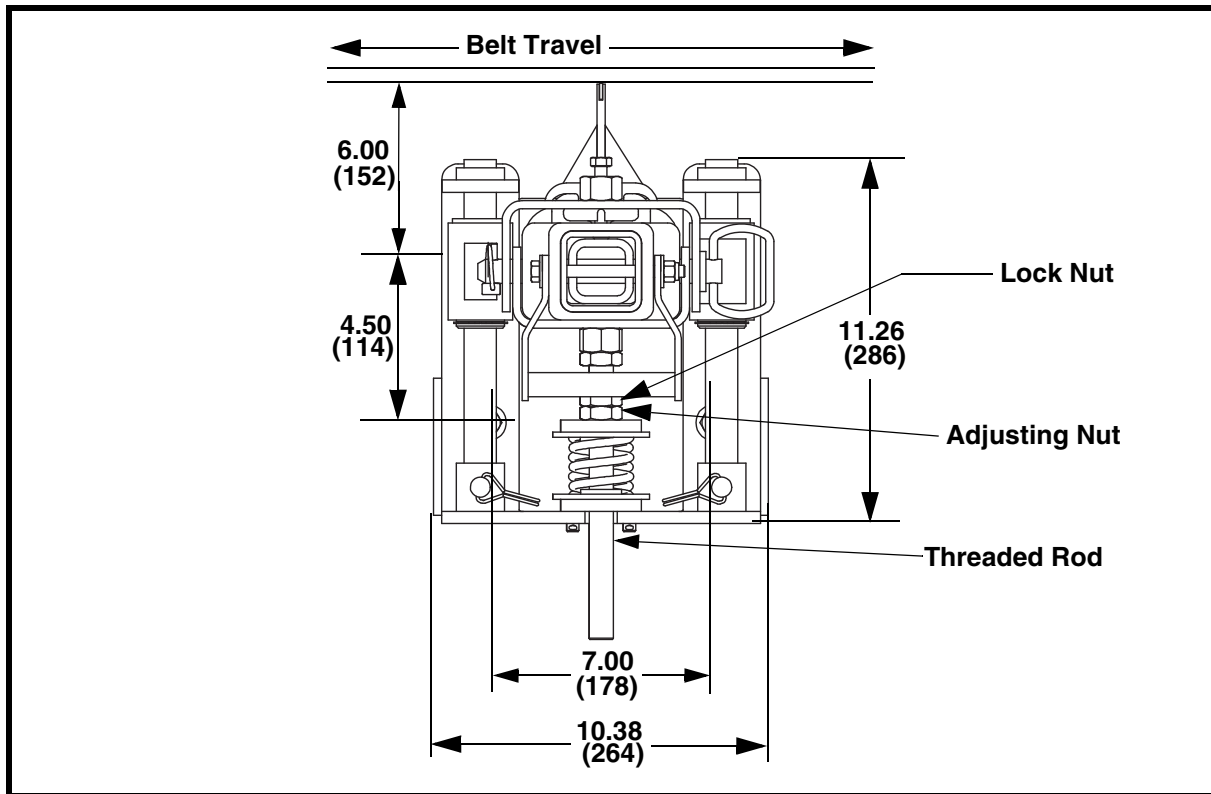


Figure 5. Spring Tensioner Operation

Table II. Recommended Spring Tension and Air Pressure

Belt Width in. (mm)	Air Tensioner psi (bar)	Spring Tensioner Compressed Spring Length in. (mm)
18 (450)	2 (0.14)	1.625 (41)
24 (600)	2 (0.14)	1.625 (41)
30 (750)	3 (0.21)	1.500 (38)
36 (900)	3 (0.21)	1.500 (38)
42 (1050)	4 (0.28)	1.500 (38)
48 (1200)	4 (0.28)	1.500 (38)
54* (1350)	5 (0.34)	1.750 (44)
60* (1500)	6 (0.41)	1.750 (44)
66* (1650)	6 (0.41)	1.750 (44)
72* (1800)	7 (0.49)	1.625 (41)
84* (2100)	7 (0.49)	1.625 (41)
96* (2400)	8 (0.55)	1.625 (41)
120* (3000)	10 (0.69)	1.500 (38)

*For belt widths 54 in. and above, replace 1-3/4” long spring, upper flat washer and UHMW spring retainer with 2” long spring and 3/4” washer included.

Adjusting the Air Tensioner

The air tensioner utilizes an inflatable air bag on each cleaner mount to provide the force to adjust the blades against the belt. Cleaner adjustments and correct force are automatically applied by simple air pressure control. See Figure 6.

1. Adjusting the air-tensioned Martin® DT2S Reversing Cleaner requires supplying air at the appropriate pressure to the tensioner air bags. Refer to Table II for recommended air pressure.
2. If using the Air Tensioner Air Regulator Kit, connect the plant air line to the lockable ball valve on the outside of the enclosure. Turn on the air supply and the ball valve to pressurize the tensioner. The cleaner will automatically rise and the blades will contact the belt.
3. Adjust the pressure to the required level by unlocking and adjusting the regulator inside the regulator kit. The regulator is self-relieving so the pressure will stabilize. (It is advisable to wait a short while after each adjustment to allow excess pressure to bleed.)
4. Once the correct pressure has been achieved, relock the regulator and close the lid on the enclosure.

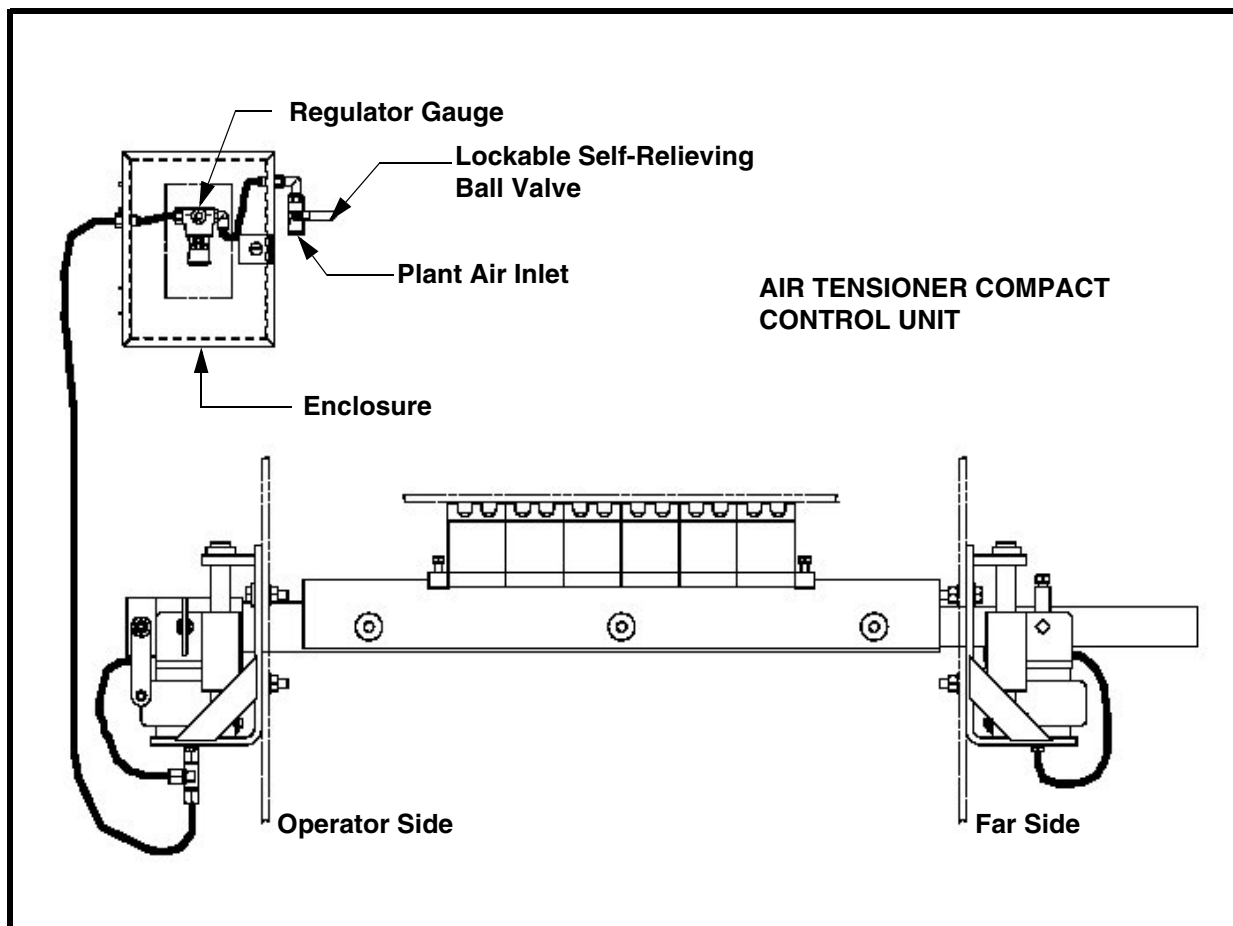


Figure 6. Air Tensioner Operation

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.
4. After belt cleaner and tensioner are installed, measure from pulley shaft to mainframe on both operator side and far side to make sure mainframe is parallel to pulley.
5. Measure from center point of pulley to outside edge of first and last blade to make sure blades are centered on belt.
6. Make sure cleaner is not changing belt line (Figure 7a). If it is, install belt support ahead of blade-to-belt contact point (Figure 7b).

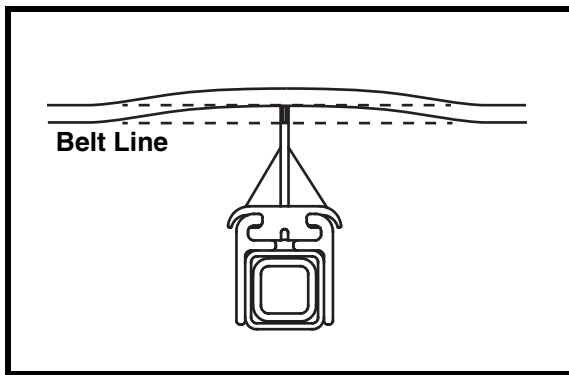


Figure 7a. Cleaner Changing Belt Line

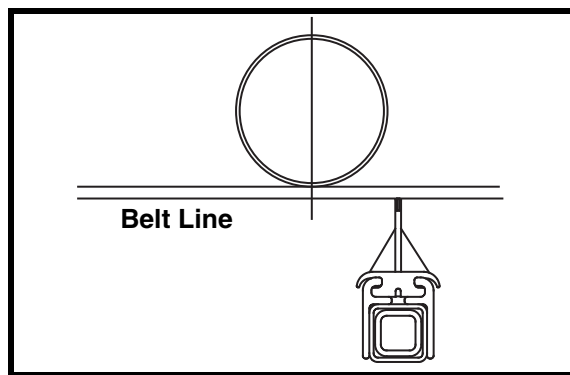
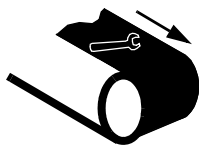


Figure 7b. Cleaner with Belt Support



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.

7. Remove all tools and fire retardant cover from installation area and conveyor 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.

8. Turn on conveyor belt for 1 hour.



⚠ 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.

9. After 1 hour of operation, turn off and lockout / tagout / blockout / testout energy source according to ANSI standards (see “References”).
10. Make sure all fasteners are tight. Tighten if necessary.
11. Inspect belt cleaner for the following:
 - Wear. (A small amount of “break-in” wear may be found.)
 - Material buildup. (No material between blades and return side of conveyor belt should be found.)
12. If wear, material buildup, or some other problem exists, see “Troubleshooting/Installation Checklist.”

Maintenance

NOTE

Maintenance inspection should be performed weekly until a maintenance schedule can be determined. Certain applications and/or changing material conditions may require more frequent maintenance inspections.



Routine Inspection/ Tension

1. Inspect the condition of the cleaner. Open the inspection door (if fitted) and observe the condition and action of the blades and cleaner.
2. If necessary, remove any material buildup from the blades or mainframe.

⚠ 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.

⚠ WARNING

Do not reach into the chute while the conveyor is running.

3. If necessary, adjust the cleaner tension. Refer to appropriate section for tensioner used.
4. Make sure all fasteners are tight. Tighten if necessary.
5. Check blades for wear and replace if necessary.
6. Wipe warning labels clean. If labels are not readable, contact Martin Engineering or a representative for replacements.



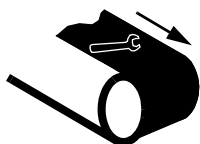
Blade Servicing

1. Undo tensioner and visually inspect blades.
 - a. If blades are clean and not excessively worn, re-tension cleaner.
 - b. If material buildup is still present or blades are worn excessively, proceed.
2. When fully retracted, simply remove the retaining pin securing the blade cartridge to the operator end of the mainframe. Grasp the handle and pull the blade cartridge off the mainframe and away from the mount bracket. Completely remove the blade cartridge from the mainframe and place it in a suitable position for maintenance work to be carried out.

⚠ 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.

3. Clean and inspect the blades. If blades are excessively worn, replace with new blades. Remove the blades from the cartridge by removing one of the end stops. Slide the blades out of the cartridge and replace by sliding in new blades. Ensure the blades face in the correct direction. Re-fit the end stop. These prevent belt damage by supporting the belt at the edge of the cleaning blades. If removing both end stops, first mark their position in the cartridge to ensure correct positioning of blades on re-assembly.
4. Re-install blade cartridge onto the cleaner mainframe and re-fit the securing pin at the operator side. Re-tension the cleaner.
5. Remove equipment from service if there is any indication it is not functioning properly. Call Martin Engineering or representative for assistance. Do NOT return equipment to operation until the cause of the problem has been identified and corrected.
6. Wipe all labels clean. If labels are not readable, contact Martin Engineering or representative for replacements.

**⚠ 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 pulled into conveyor belt, causing severe injury or death.

8. Start conveyor belt.
9. Observe cleaner action and blade effectiveness.

Troubleshooting/Installation Checklist

Troubleshooting

If you are experiencing problems with belt cleaner, see below:

Symptom	Corrective Action
Blades pop out of track.	Tension is set too high. Reduce pressure or tension.
High blade wear rate.	Tension is set too high. Reduce pressure or tension.
Insufficient cleaning and carryback.	<ul style="list-style-type: none"> • Tension is set too low or too high. Increase or decrease pressure or tension. • Check blades for excessive wear and replace if necessary.
Blades vibrate.	<ul style="list-style-type: none"> • Incorrect installation angle. Check installation, ensuring cleaner mount is perpendicular to belt. • Belt deflected upward on tensioning of cleaner. Install an idler roller over the belt near the belt contact point. • Belt vibration being transferred to cleaner. Install an idler roller over the belt near the blade contact point.
Mainframe bent.	<ul style="list-style-type: none"> • Mainframe undersized. Stiffened mainframe required. Contact Martin Engineering for assistance. • Excessive tension. Relax blade tension to maximum tension recommended in installation instructions. • Increase frequency of inspection and service once a week. • A small amount of deflection is considered normal. Contact Martin Engineering if excessive deflection occurs.

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

Installation Checklist
- Mainframe is parallel to pulley.
- Blades are perpendicular to belt.
- Blades are centered on belt.

Part Numbers

This section provides product names and corresponding part numbers for Martin® DT2S Reversing Cleaner and related equipment. Please reference part numbers when ordering parts:

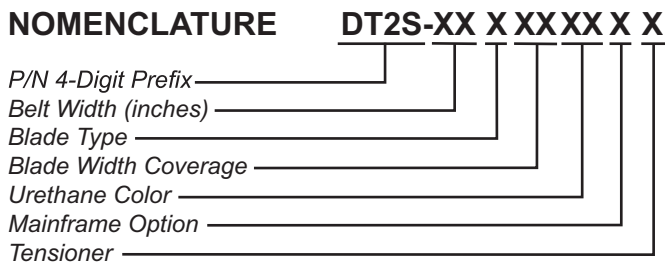
Martin® DT2S Reversing Cleaner & Tensioners

Martin® DT2S Reversing Cleaner: P/N DT2S-XXXXXXXXXX.

Martin® DT2S Reversing Cleaner Cartridge:
P/N DT2SC-XXXXXXXXXX.

Martin® Inline Spring Tensioner: P/N 37707.

Martin® Inline Air Tensioner: P/N 37707-A.



Blade Type

- R:** Tungsten Carbide Insert with Stainless Steel Holder
- T:** Tungsten Carbide Reversing Blade
- S:** Stainless Steel Reversing Blade
- U:** Urethane Reversing Blade

Mainframe

- P:** Standard Duty
- S:** 316 Stainless Steel

Urethane Color

- BR:** Brown
- GR:** Green
- OR:** Orange

Tensioner Type

- A:** Air Tensioner
- S:** Spring Tensioner

Miscellaneous

Reversing Hanger Mount Weldment (Pair): P/N 33288.

Reversing Hanger Mount Weldment: P/N 33282.

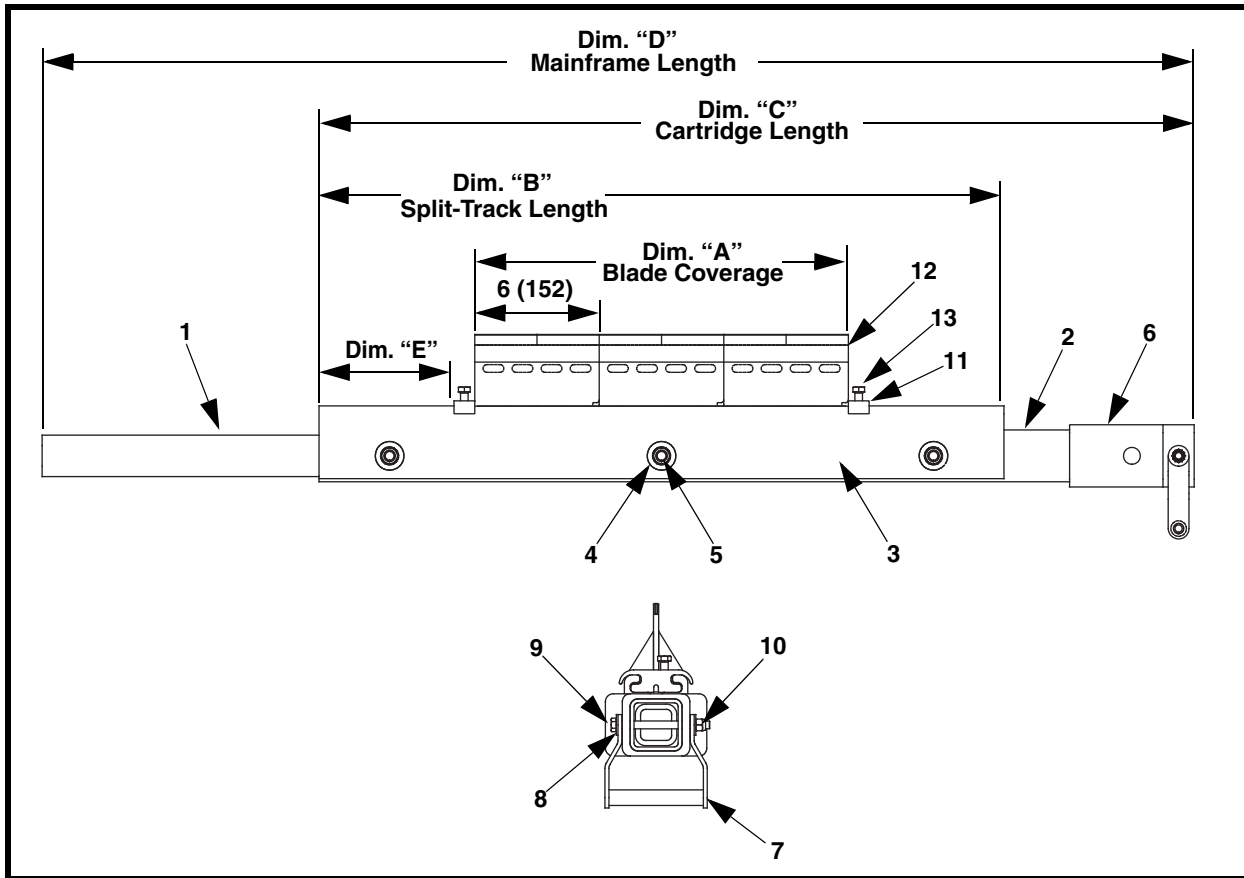


Figure 8. Martin® DT2S Reversing Cleaner, P/N DT2S-XXXXXXXXXX

Item	Description	Part No.	Qty
1	Frame Mandrel	37714-XX	1
2	Split-Track Mainframe Weldment	37717-XX	1
3	Split Frame	34423-XX	1
4	Washer, Flat 1/2 Wide	17328	Table III
5	Nut, Hex Elastic Lock 1/2-13NC	18577	Table III
6	End Cap	37705	1
7	Handle Weldment	36313	1
8	Washer, Flat 3/8 Wide	18007	2
9	Screw, HHC 3/8-16NC X 4-1/2	34082	1
10	Nut, Hex Elastic Lock 3/8-16NC	14201	1
11	End Stop	Table III	2
12	Blade	Table III	Table III
13	Screw, HHC 3/8-16NC X 1-1/2	15673	2
14	Spring Tensioner	37707	1
15	Air Tensioner	37707-A	1
16(NS)	Label, Conveyor Product Warning	23395	2
17 (NS)	Label, Martin® Products	38048	2
18 (NS)	Manual, Operators	M3687	1

NS = Not Shown

Table III. Martin® DT2S Reversing Cleaner

Part No. Std-Duty Mainframe	Dim "A"	Dim "B"	Dim "C"	Dim "D"	Dim. "E"
DT2S-18X12XXXX	12 (305)	27 (686)	36.16 (918)	49.50 (1257)	6.50 (165)
DT2S-18X18XXXX	18 (457)	27 (686)	36.16 (918)	49.50 (1257)	3.50 (89)
DT2S-24X18XXXX	18 (457)	33 (838)	42.16 (1071)	55.50 (1410)	6.50 (165)
DT2S-24X24XXXX	24 (610)	33 (838)	42.16 (1071)	55.50 (1410)	3.50 (89)
DT2S-30X24XXXX	24 (610)	39 (991)	48.16 (1223)	61.50 (1562)	6.50 (165)
DT2S-30X30XXXX	30 (762)	39 (991)	48.16 (1223)	61.50 (1562)	3.50 (89)
DT2S-36X30XXXX	30 (762)	45 (1143)	54.16 (1376)	67.50 (1715)	6.50 (165)
DT2S-36X36XXXX	36 (914)	45 (1143)	54.16 (1376)	67.50 (1715)	3.50 (89)
DT2S-42X36XXXX	36 (914)	51 (1295)	60.16 (1528)	73.50 (1867)	6.50 (165)
DT2S-42X42XXXX	42 (967)	51 (1295)	60.16 (1528)	73.50 (1867)	3.50 (89)
DT2S-48X42XXXX	42 (967)	57 (1448)	66.16 (1680)	79.50 (2019)	6.50 (165)
DT2S-48X48XXXX	48 (1219)	57 (1448)	66.16 (1680)	79.50 (2019)	3.50 (89)
DT2S-54X48XXXX	48 (1219)	63 (1600)	72.16 (1833)	85.50 (2172)	6.50 (165)
DT2S-54X54XXXX	54 (1372)	63 (1600)	72.16 (1833)	85.50 (2172)	3.50 (89)
DT2S-60X54XXXX	54 (1372)	69 (1753)	78.16 (1985)	91.50 (2324)	6.50 (165)
DT2S-60X60XXXX	60 (1524)	69 (1753)	78.16 (1985)	91.50 (2324)	3.50 (89)
DT2S-66X60XXXX	60 (1524)	75 (1905)	84.16 (2138)	97.50 (2477)	6.50 (165)
DT2S-66X66XXXX	66 (1676)	75 (1905)	84.16 (2138)	97.50 (2477)	3.50 (89)
DT2S-72X66XXXX	66 (1676)	81 (2057)	90.16 (2290)	103.50 (2629)	6.50 (165)
DT2S-72X72XXXX	72 (1829)	81 (2057)	90.16 (2290)	103.50 (2629)	3.50 (89)
DT2S-84X78XXXX	78 (1981)	93 (2362)	102.16 (2595)	115.50 (2934)	6.50 (165)
DT2S-84X84XXXX	84 (2134)	93 (2362)	102.16 (2595)	115.50 (2934)	3.50 (89)
DT2S-96X90XXXX	90 (2286)	105 (2667)	114.16 (2900)	127.50 (3239)	6.50 (165)
DT2S-96X96XXXX	96 (2438)	105 (2667)	114.16 (2900)	127.50 (3239)	3.50 (89)
DT2S-108X102XXXX	102 (2591)	117 (2972)	126.16 (3205)	139.50 (3543)	6.50 (165)
DT2S-108X108XXXX	108 (2743)	117 (2972)	126.16 (3205)	139.50 (3543)	3.50 (89)
DT2S-120X114XXXX	114 (2896)	129 (3277)	138.16 (3509)	151.50 (3848)	6.50 (165)
DT2S-120X120XXXX	120 (3048)	129 (3277)	138.16 (3509)	151.50 (3848)	3.50 (89)

Part Numbers

Part No. Std-Duty Mainframe	P/N Item 1	P/N Item 2	P/N Item 3	Qty Items 4 & 5	Qty Item 12
DT2S-18X12XXXX	37714-18	37717-18	34423-30	2	2
DT2S-18X18XXXX	37714-18	37717-18	34423-30	2	3
DT2S-24X18XXXX	37714-24	37717-24	34423-36	3	3
DT2S-24X24XXXX	37714-24	37717-24	34423-36	3	4
DT2S-30X24XXXX	37714-30	37717-30	34423-42	3	4
DT2S-30X30XXXX	37714-30	37717-30	34423-42	3	5
DT2S-36X30XXXX	37714-36	37717-36	34423-48	4	5
DT2S-36X36XXXX	37714-36	37717-36	34423-48	4	6
DT2S-42X36XXXX	37714-42	37717-42	34423-54	4	6
DT2S-42X42XXXX	37714-42	37717-42	34423-54	4	7
DT2S-48X42XXXX	37714-48	37717-48	34423-60	5	7
DT2S-48X48XXXX	37714-48	37717-48	34423-60	5	8
DT2S-54X48XXXX	37714-54	37717-54	34423-66	5	8
DT2S-54X54XXXX	37714-54	37717-54	34423-66	5	9
DT2S-60X54XXXX	37714-60	37717-60	34423-72	5	9
DT2S-60X60XXXX	37714-60	37717-60	34423-72	5	10
DT2S-66X60XXXX	37714-66	37717-66	34423-78	6	10
DT2S-66X66XXXX	37714-66	37717-66	34423-78	6	11
DT2S-72X66XXXX	37714-72	37717-72	34423-84	6	11
DT2S-72X72XXXX	37714-72	37717-72	34423-84	6	12
DT2S-84X78XXXX	37714-84	37717-84	34423-96	7	13
DT2S-84X84XXXX	37714-84	37717-84	34423-96	7	14
DT2S-96X90XXXX	37714-96	37717-96	34423-108	8	15
DT2S-96X96XXXX	37714-96	37717-96	34423-108	8	16
DT2S-108X102XXXX	37714-108	37717-108	34423-120	9	17
DT2S-108X108XXXX	37714-108	37717-108	34423-120	9	18
DT2S-120X114XXXX	37714-120	37717-120	34423-132	10	19
DT2S-120X120XXXX	37714-120	37717-120	34423-132	10	20

Blade Part No.	Blade Type	P/N Item 11	P/N Item 12
DT2S-XXRXXXXXX	Tungsten Carbide w/SS Holder	30386	31104-TCSXX
DT2S-XXRXXXXSX	Tungsten Carbide w/SS Holder	30386-N	31104-TCSXX
DT2S-XXTXXXXXX	Tungsten Carbide	30386	31104-TXX
DT2S-XXTXXXXSX	Tungsten Carbide	30386-N	31104-TXX
DT2S-XXSXXXXXX	Stainless Steel	30386	31104-SXX
DT2S-XXSXXXXSX	Stainless Steel	30386-N	31104-SXX
DT2S-XXUXXXXXX	Urethane	30386	31104-UXX
DT2S-XXUXXXXSX	Urethane	30386-N	31104-UXX
DT2S-XXMXXXXSX	Mild Steel	30386	31104-MXX

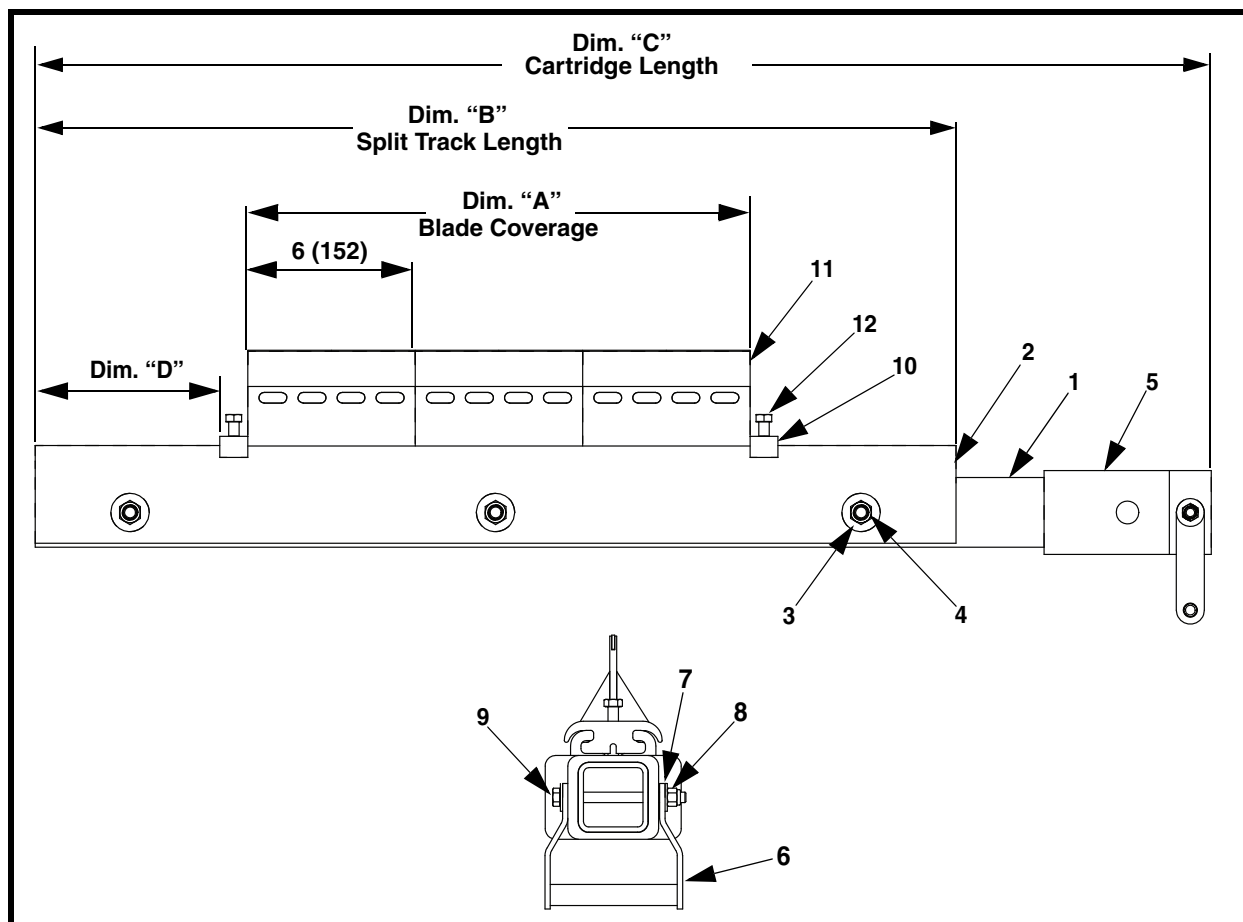


Figure 9. Martin® DT2S Reversing Cleaner Cartridge, P/N DT2SC-XXXXXXXXXX

Item	Description	Part No.	Qty
1	Split-Track Mainframe Weldment	37717-XX	1
2	Split Frame	34423-XX	1
3	Washer Flat 1/2 Wide	17328	Table IV
4	Nut Hex Elastic Lock 1/2-13NC	18577	Table IV
5	End Cap	37705	1
6	Handle Weldment	36313	1
7	Washer Flat 3/8 Wide	18007	2
8	Screw HHC 3/8-16NC X 4-1/2	34082	1
9	Nut Hex Elastic Lock 3/8-16NC	14201	1
10	End Stop	Table IV	2
11	Blade	Table IV	Table IV
12	Screw HHC 3/8-16NC X 1-1/2	15673	2
13	Label Conveyor Products Warning	23395	2
14	Label Martin® Products	38048	2

Cleaner is available with stainless steel components. Contact Martin Engineering for part numbers.

Table IV. Martin® DT2S Reversing Cleaner Cartridge

Part No. Std-Duty Mainframe	Dim "A"	Dim "B"	Dim "C"	Dim. "D"
DT2SC-18X12XXXX	12 (305)	27 (686)	36.16 (918)	6.38 (162)
DT2SC-18X18XXXX	18 (457)	27 (686)	36.16 (918)	3.38 (86)
DT2SC-24X18XXXX	18 (457)	33 (838)	42.16 (1071)	6.38 (162)
DT2SC-24X24XXXX	24 (610)	33 (838)	42.16 (1071)	3.38 (86)
DT2SC-30X24XXXX	24 (610)	39 (991)	48.16 (1223)	6.38 (162)
DT2SC-30X30XXXX	30 (762)	39 (991)	48.16 (1223)	3.38 (86)
DT2SC-36X30XXXX	30 (762)	45 (1143)	54.16 (1376)	6.38 (162)
DT2SC-36X36XXXX	36 (914)	45 (1143)	54.16 (1376)	3.38 (86)
DT2SC-42X36XXXX	36 (914)	51 (1295)	60.16 (1528)	6.38 (162)
DT2SC-42X42XXXX	42 (1067)	51 (1295)	60.16 (1528)	3.38 (86)
DT2SC-48X42XXXX	42 (1067)	57 (1448)	66.16 (1680)	6.38 (162)
DT2SC-48X48XXXX	48 (1219)	57 (1448)	66.16 (1680)	3.38 (86)
DT2SC-54X48XXXX	48 (1219)	63 (1600)	72.16 (1833)	6.38 (162)
DT2SC-54X54XXXX	54 (1372)	63 (1600)	72.16 (1833)	3.38 (86)
DT2SC-60X54XXXX	54 (1372)	69 (1753)	78.16 (1985)	6.38 (162)
DT2SC-60X60XXXX	60 (1524)	69 (1753)	78.16 (1985)	3.38 (86)
DT2SC-66X60XXXX	60 (1524)	75 (1905)	84.16 (2138)	6.38 (162)
DT2SC-66X66XXXX	66 (1676)	75 (1905)	84.16 (2138)	3.38 (86)
DT2SC-72X66XXXX	66 (1676)	81 (2057)	90.16 (2290)	6.38 (162)
DT2SC-84X78XXXX	78 (1981)	93 (2362)	102.16 (2595)	6.38 (162)
DT2SC-84X84XXXX	84 (2134)	93 (2362)	102.16 (2595)	3.50 (89)
DT2SC-96X90XXXX	90 (2286)	105 (2667)	114.16 (2900)	6.38 (162)
DT2SC-96X96XXXX	96 (2438)	105 (2667)	114.16 (2900)	3.50 (89)
DT2SC-120X114XXXX	114 (2896)	129 (3277)	138.16 (3509)	6.38 (162)

Part No. Std-Duty Mainframe	P/N Item 1	P/N Item 2	Qty Items 3 & 4	Qty Item 11
DT2SC-18X12XXXX	37717-18	34423-30	2	2
DT2SC-18X18XXXX	37717-18	34423-30	2	3
DT2SC-24X18XXXX	37717-24	34423-36	3	3
DT2SC-24X24XXXX	37717-24	34423-36	3	4
DT2SC-30X24XXXX	37717-30	34423-42	3	4
DT2SC-30X30XXXX	37717-30	34423-42	3	5
DT2SC-36X30XXXX	37717-36	34423-48	4	5
DT2SC-36X36XXXX	37717-36	34423-48	4	6
DT2SC-42X36XXXX	37717-42	34423-54	4	6
DT2SC-42X42XXXX	37717-42	34423-54	4	7
DT2SC-48X42XXXX	37717-48	34423-60	5	7
DT2SC-48X48XXXX	37717-48	34423-60	5	8
DT2SC-54X48XXXX	37717-54	34423-66	5	8
DT2SC-54X54XXXX	37717-54	34423-66	5	9
DT2SC-60X54XXXX	37717-60	34423-72	5	9
DT2SC-60X60XXXX	37717-60	34423-72	5	10
DT2SC-66X60XXXX	37717-66	34423-78	6	10
DT2SC-66X66XXXX	37717-66	34423-78	6	11
DT2SC-72X66XXXX	37717-72	34423-84	6	11
DT2SC-84X78XXXX	37717-84	34423-96	7	13
DT2SC-84X84XXXX	37717-84	34423-96	7	14
DT2SC-96X90XXXX	37717-96	34423-108	8	15
DT2SC-96X96XXXX	37717-96	34423-108	8	16
DT2SC-120X114XXXX	37717-120	34423-132	10	19

Blade Part No.	Blade Type	P/N Item 10	P/N Item 11
DT2S-XXRXXXXXX	Tungsten Carbide w/SS Holder	30386	31104-TCSXX
DT2S-XXRXXXXSX	Tungsten Carbide w/SS Holder	30386-N	31104-TCSXX
DT2S-XXTXXXXXX	Tungsten Carbide	30386	31104-TXX
DT2S-XXTXXXXSX	Tungsten Carbide	30386-N	31104-TXX
DT2S-XXSXXXXXX	Stainless Steel	30386	31104-SXX
DT2S-XXSXXXXSX	Stainless Steel	30386-N	31104-SXX
DT2S-XXUXXXXXX	Urethane	30386	31104-UXX
DT2S-XXUXXXXSX	Urethane	30386-N	31104-UXX
DT2S-XXMXXXXSX	Mild Steel	30386	31104-MXX

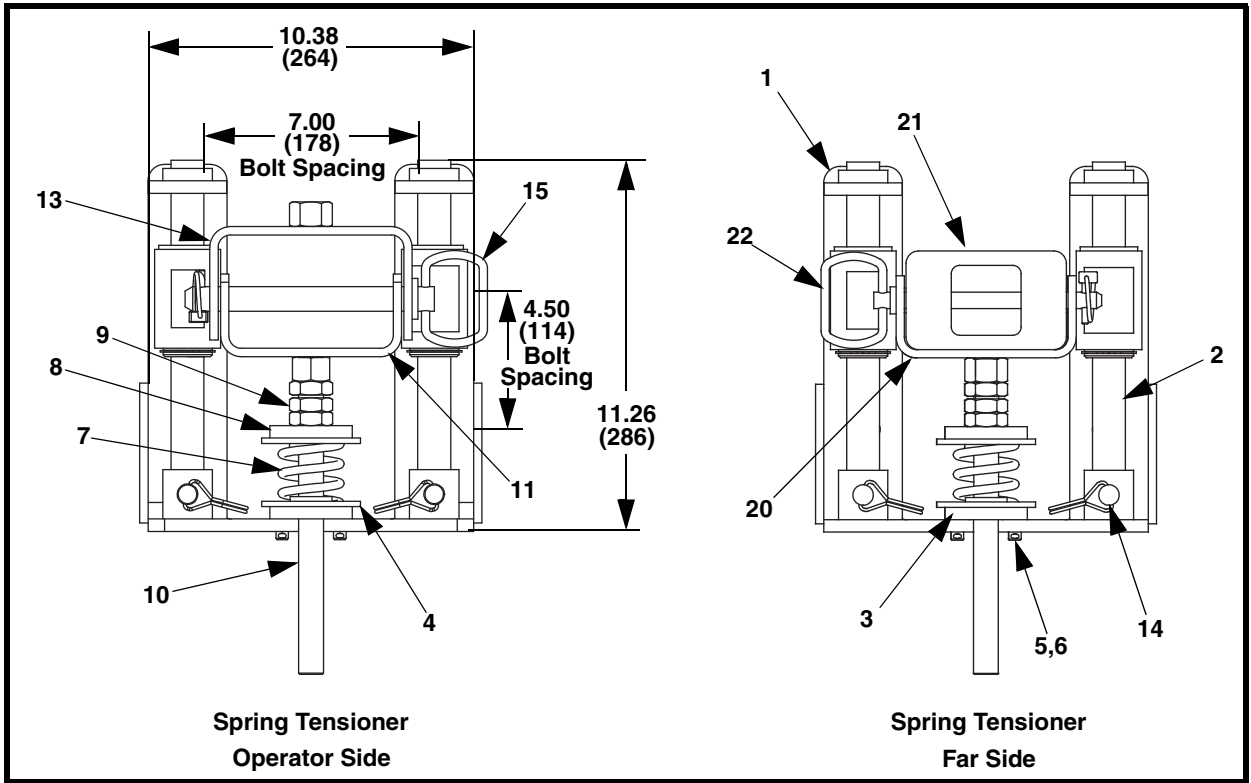


Figure 10. Martin® Inline Spring Tensioner, P/N 37707

Item	Description	Part No.	Qty
1	Mount Plate Weldment	37701	2
2	Guide Rod Weldment	37702	4
3	Spring Retainer	33594	2
4	Washer Flat 1-1/4 Wide ZP	33951	4
5	Pin Clevis 3/8 X 7/8 ZP	33949	4
6	Pin Cotter 1/8 X 1 Ext. Prong ZP	16578	4
7	Spring $\varnothing 2$ X 1-3/4 Long	33602	2
8	Spring Retainer	33594-01	2
9	Nut Hex Jam 3/4-6 ACME ZP	38219	6
10	Threaded Rod 7.50 Long	37706	2
11 (NS)	Slide Bracket	37703-0S	1
12 (NS)	UHMW Sleeve	37704	4
13	Top Mount	37703-OSTOP	1
14	Pin Wire Lock 3/8 x 1-3/4	37126	4
15	Pin, Hitch 3/4 x 6-1/4	38073	1
16 (NS)	Washer, Flat 1/2 Thick SS	19126	8
17 (NS)	Screw, HHC 1/2-13NC X 1-1/2 SS	22766	8
18 (NS)	Washer, Compression 1/2 SS	24310	8
19 (NS)	Nut, Hex 1/2-13NC SS	17151	8
20	Slide Bracket	37703	1
21	Far Side End Cap	37705-F	1
22	Pin Hitch 1/2 x 5-3/4	35876	1
23 (NS)	Label Martin [®] Products	32238	2
24 (NS)	Label Pinch Point Warning	30528	2
25 (NS)	Label Conveyor Products Warning	23395	2
26 (NS)	Label for Reversing Tensioner	35949	2
27 (NS)	Manual, Operators	M3687	1
28*	Tensioner Spring, Die 2.00 Long	38026	2
29*	Tensioner Washer, Flat 3/4 ZP	20164	2
30 (NS)	Tensioner External Retaining Ring	38301	4

NS = Not Shown

*Shipped loose. Use on belt widths 54.00 (1400) and larger.

Figure 10. Martin[®] DT2S Spring Tensioner, P/N 37707

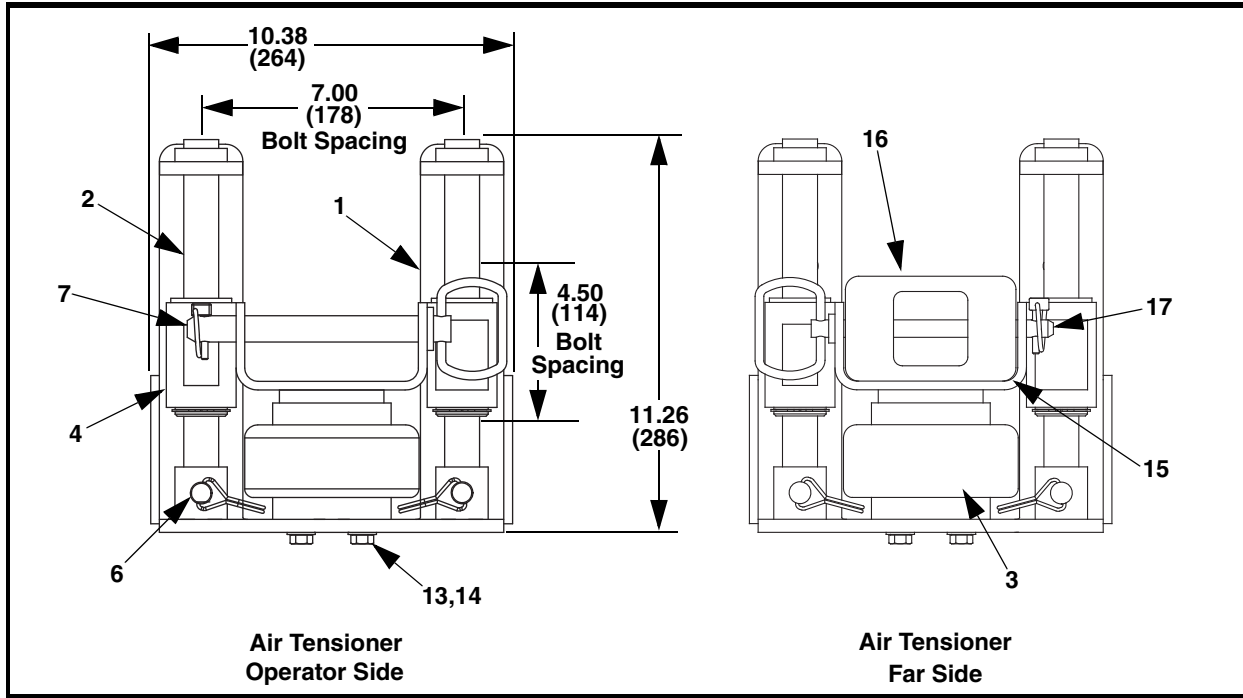


Figure 11. Martin® In-line Air Tensioner, P/N 37707-A

Item	Description	Part No.	Qty
1	Mount Plate Weldment	37701	2
2	Guide Rod Weldment	37702	4
3	Air Bag	30587	2
4	Slide Bracket	37703-OSA	1
5 (NS)	UHMW Sleeve	37704	4
6	Pin Wire Lock 3/8 x 1-3/4 ZP	37126	4
7	Pin Hitch 3/4 x 6-1/4	38073	1
8 (NS)	Washer Flat 1/2 Thick SS	19126	8
9 (NS)	Screw HHC 1/2-13NC X 1-1/2 SS	22766	8
10 (NS)	Washer Compression 1/2 SS	24310	8
11 (NS)	Nut Hex 1/2-13NC SS	17151	8
12 (NS)	Screw SHC 3/8-16NC X 3/4 ZP	36510	4
13	Washer Compression 3/8	11747	4
14	Screw HHC 3/8-16NC X 1 ZP	11746-02	4
15	Slide Bracket	37703-A	1
16	Far Side End Cap	37705-F	1
17	Pin Hitch 1/2 x 5-3/4	35876	1
18 (NS)	Label Martin® Products	32238	2
19 (NS)	Label Pinch Point Warning	30528	2
20 (NS)	Label Conveyor Products Warning	23395	2
21 (NS)	Label for Reversing Tensioner	35949	2
22 (NS)	Manual, Operators	M3687	1
23 (NS)	Tensioner External Retaining Ring	38301	4

NS = Not Shown

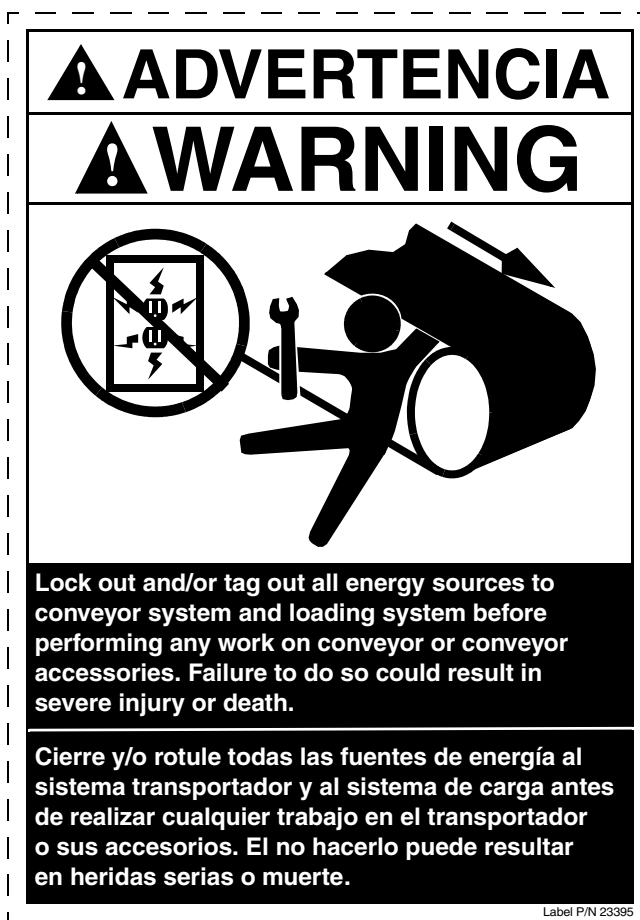


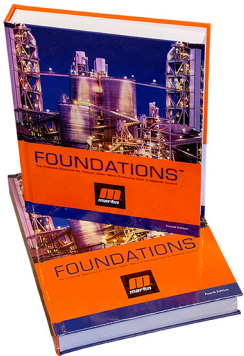
Figure 12. Martin® Conveyor Products Warning Label, P/N 23395



Figure 13. Martin® Pinch Point Warning Label, P/N 30528

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 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 =**