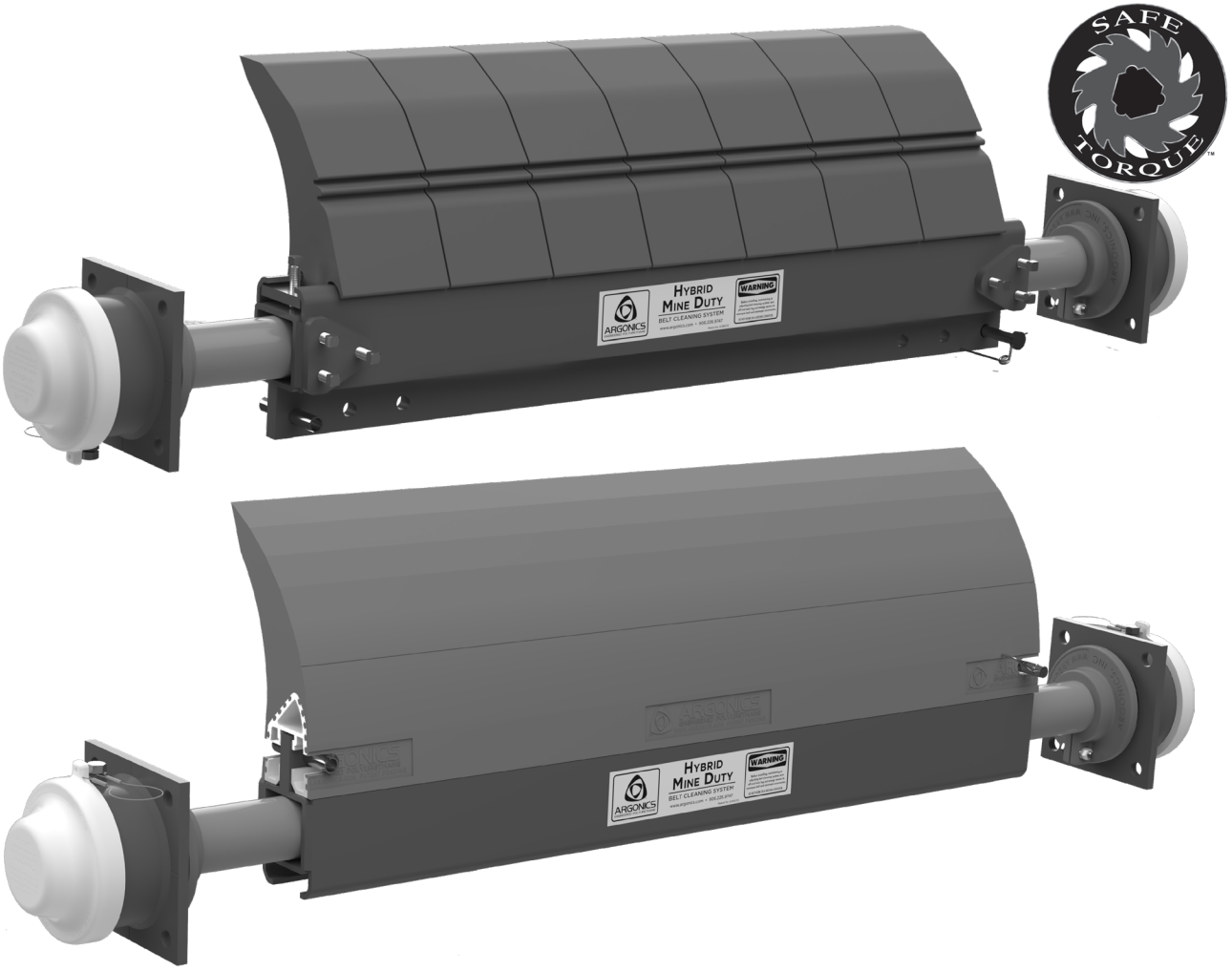
Installation Guide

ARGONICS ENGINEERED POLYURETHANE

HYBRID MINE DUTY

Conveyor Belt Cleaning System



PERFORMANCE SOLUTIONS! PROVEN

LIB-CP-HMD-03-02 Rev. 1

⚠WARNING

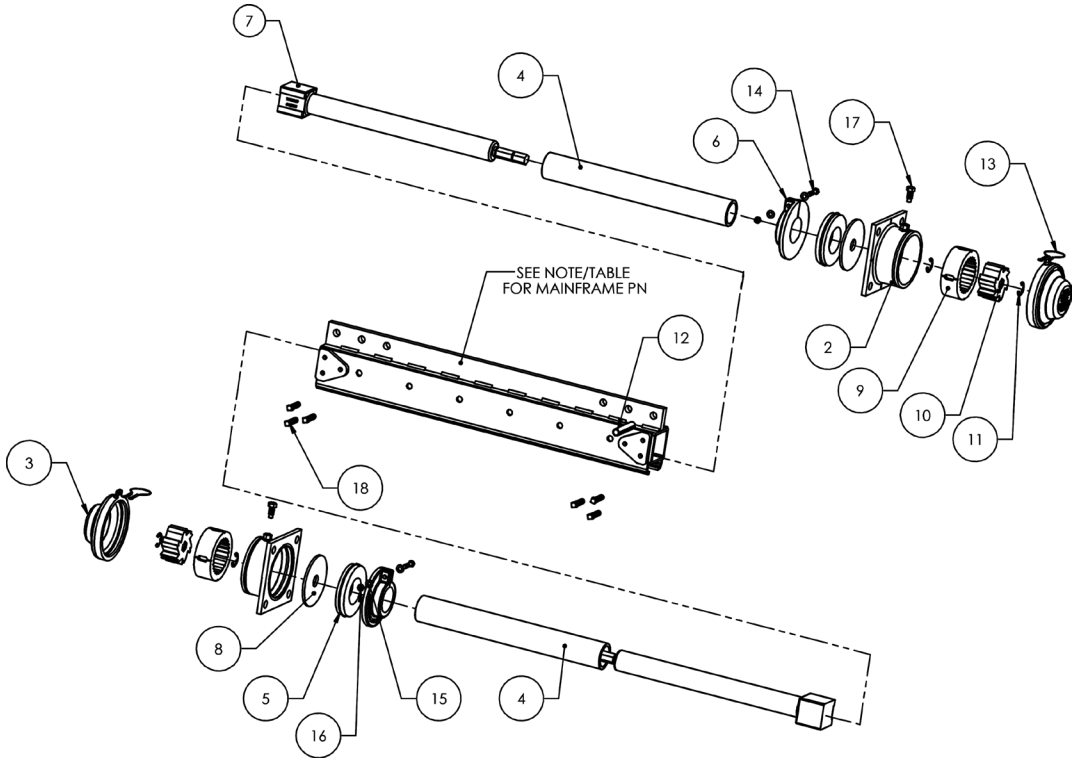
Always obey all applicable safety rules.
Be sure all power to the conveyor has been disconnected and controls are locked out.

Installation Tools Required

- Tape measure
- Cutting Torch or Hole Saw (4½")
- Level
- Scribe or Chalk
- Welder or Drill
- ½" Wrench
- 1¼" Wrench or Crescent Wrench

Bolts, lock washers and nuts for mounting are not supplied

Safe Torque Ratchet System - Assembly Breakdown



Number	Part Number	Quantity	Description
1	CP-HMD-M0XX01	1	Mainframe - see pricing on previous pages
2	CP-SE2-P33R	2	SE2 Ratchet Mounting Spool
3	CP-SE2-P75B-Y83	2	SE2 Dust Cap
4	CP-SE2-P22B	2	Stub End
5	CP-SE2-P33-RT-B93	2	SE2 Inner Snap Seal
6	CP-SE2-PLC65-G83	2	SE2 Locking Collar
7	CP-SE2-P2075-E-B93	2	SE2 Tensioner
8	CP-SE2-P56F	2	SE2 Ratchet Spool Washer
9	CP-SE2-P52C-G83	2	SE2 Outer Catch
10	CP-SE2-P42C-G83	2	SE2 Inner Ratchet Catch
11	CP-AR-98407A156	4	Retaining Ring
12	CP-SE2-P550	1	Safety Snap Pin .63" x 5.5"
13	CP-AR-505	1	Spring Pin 3/4" x 4-1/4"
14	CP-AR-90312A720	2	Wire Rope Lanyard; 12" Long, 3/64" Wire
15	BOLT-0.38X1.75NC-ZC	2	Bolt, 0.375"-16 NC, Zinc-Plated 1.75" Long
16	WASH-0.38-F-SAE-ZINC	4	Washer, SAE .375", Zinc-Plated
17	NUT-016	2	Nut, 0.375"-16 NC, Zinc-Plated
18	CP-AR-512540	2	Bolt, 0.5"-13 NC, Zinc-Plated 1.25" Long
19	CP-AR-5200S	6	Set Screw 1/2"-13UNC x 2.00" Long SS
20	CP-AR-AKIT02	1	Mounting Hardware Kit - Bolts, Nuts, & Washers

~ Installing with Single, Solid Blade ~

For installation with segmented blade, turn to page 4

Note:

This Hybrid Mine Duty primary belt cleaning system is designed to be used on conveyor pulleys of 24″ in diameter and larger. Using this system on a pulley smaller than the recommended size stated above will not provide proper cleaning of your conveyor system.

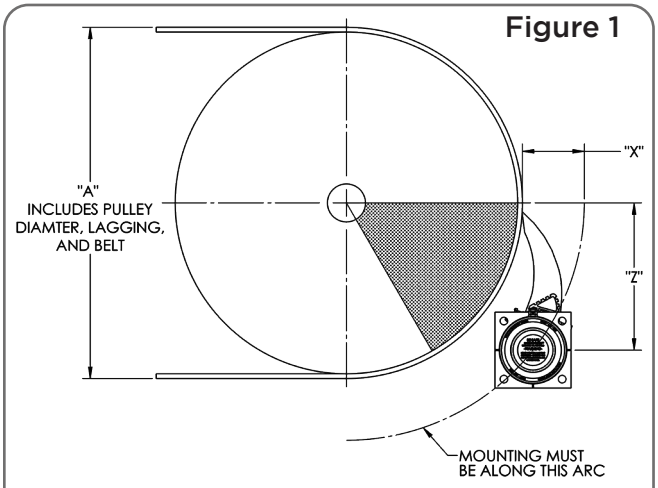
Step One: Calculations

NOTE: Shaded areas in Figures 1 and 1a represent acceptable mounting locations.

Dimension Table - Table 1		
Outside Diameter*	X	Z
24″ - 31″	7″	15.50″
32″ - 47″	6.50″	15.50″
48″ & Larger	6.25″	15.50″

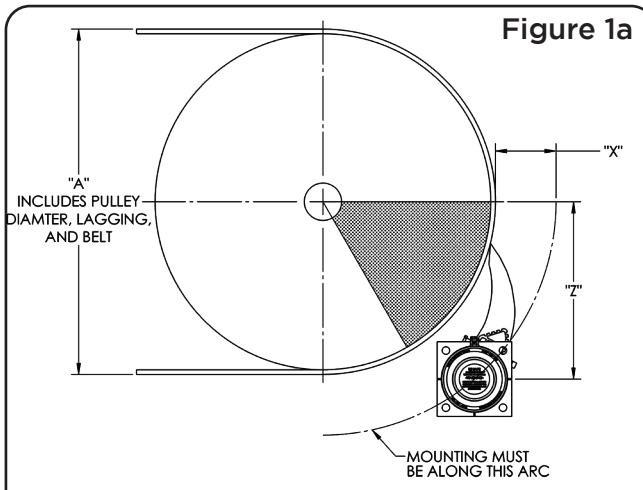
* Includes lagging and belt thickness

Figure 1



NOTE: Z dimension shown at 14½″.

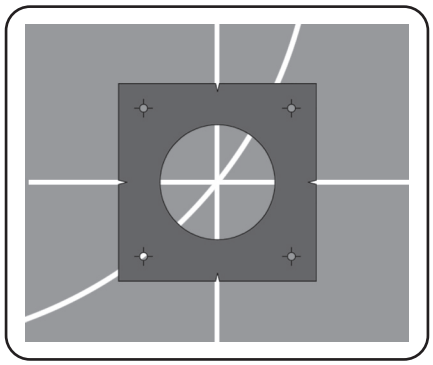
Figure 1a



NOTE: Z dimension shown at 19″.

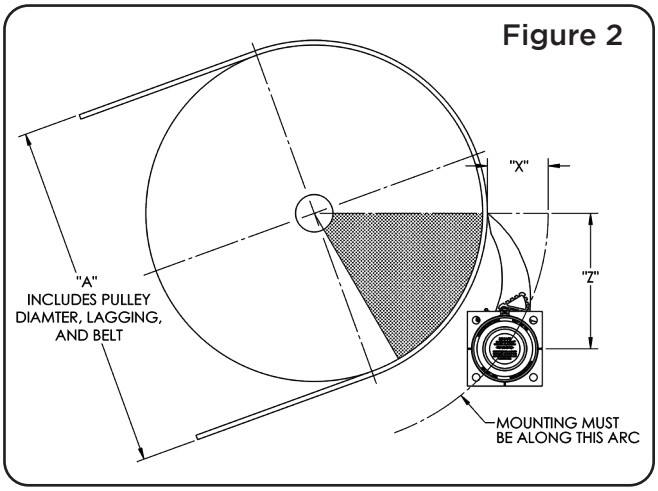
Step Two: Layout

After you have determined the mounting location for your belt cleaning system, align the template (see page 11 of this guide) with your bisected horizontal and vertical lines on the mounting structure wall and transfer the center hole, bolt holes and perimeter of the template to the chute wall using your scribe.



Inclined belt mounting position

Figure 2



ATTENTION: Tip of blade is below horizontal axis.

Repeat the layout procedure on the opposite mounting structure.

INSTALLATION - Segmented Blade

~ Installing with Segmented Blade ~

Note:

This Hybrid Mine Duty primary belt cleaning system is designed to be used on conveyor pulleys of 24″ in diameter and larger. Using this system on a pulley smaller than the recommended size stated above will not provide proper cleaning of your conveyor system.

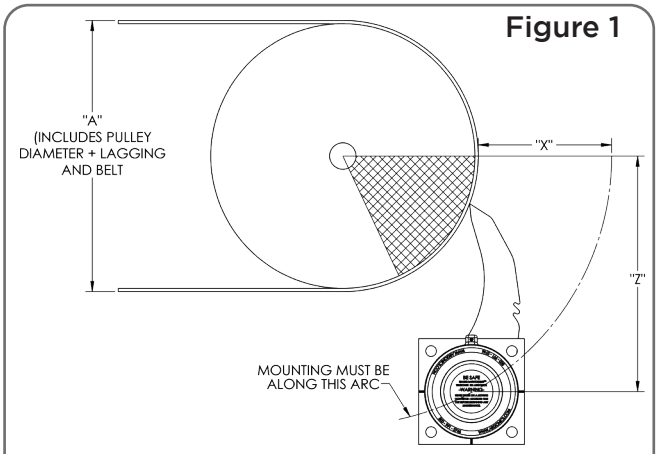
Step One: Calculations

NOTE: Shaded areas in Figures 1 and 1a represent acceptable mounting locations.

Dimension Table - Table 1		
Outside Diameter*	X	Z
24″ - 29″	7″	15.25″
30″ - 35″	6.5″	15.25″
36″ - 51″	6″	15.25″
52″+	5.5″	15.25″

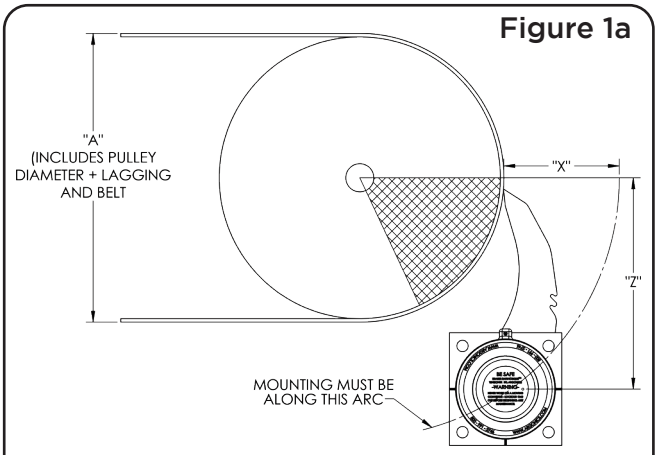
* Includes lagging and belt thickness

Figure 1



NOTE: Z dimension shown at 17".

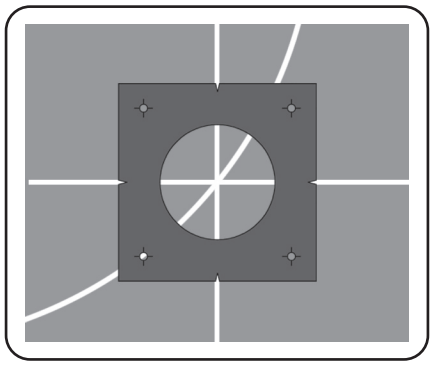
Figure 1a



NOTE: Z dimension shown at 15¼".

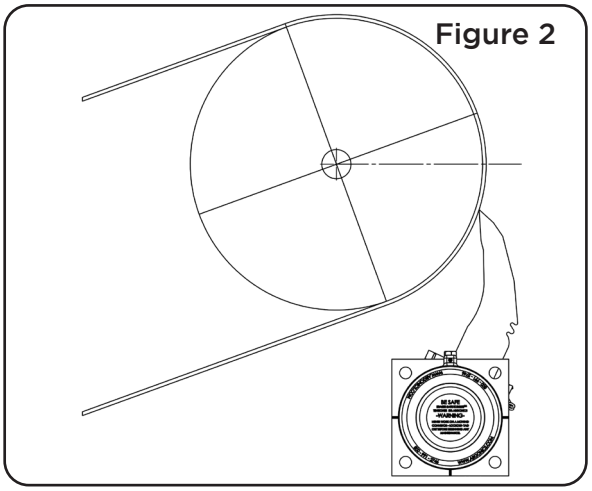
Step Two: Layout

After you have determined the mounting location for your belt cleaning system, align the template (see page 11 of this guide) with your bisected horizontal and vertical lines on the mounting structure wall and transfer the center hole, bolt holes and perimeter of the template to the chute wall using your scribe.



Inclined belt mounting position

Figure 2



ATTENTION: Tip of blade is below horizontal axis.

Repeat the layout procedure on the opposite mounting structure.

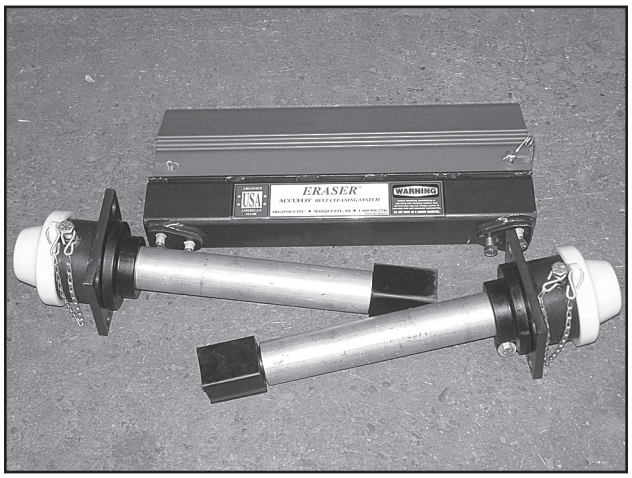
Step Three (B): Mounting systems equipped with a dual tensioner

Cut the tensioner holes which were scribed on the mounting structure (your finished holes should be approx. 4 1/2" in diameter).

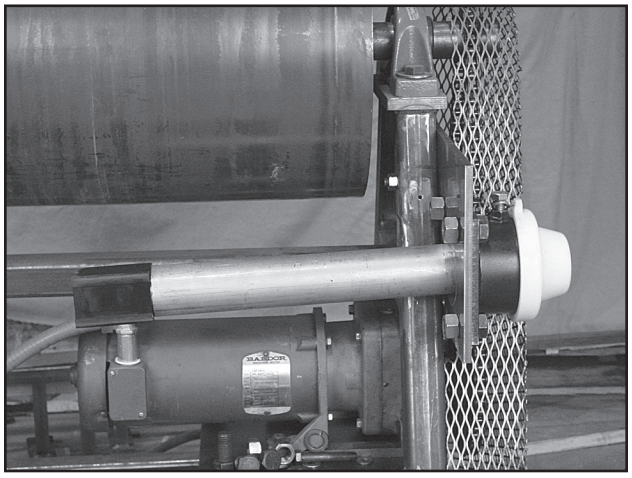
NOTES:

• For Bolt In Only - Using the bolt circles that you scribed as a guide, drill four 13/16" diameter holes to accept 3/4" diameter grade 8 bolts per mounting spool.

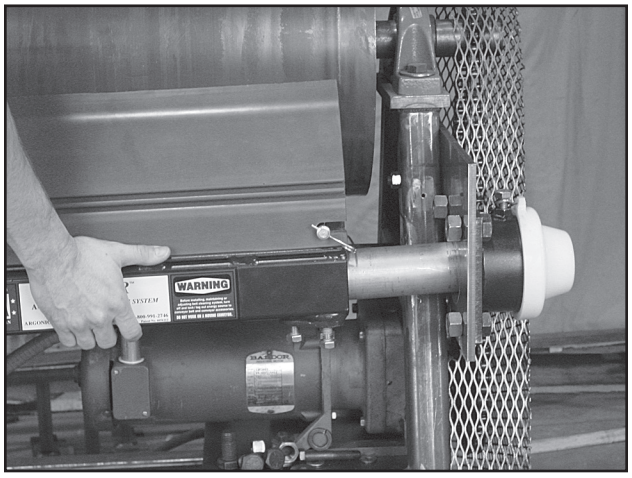
Remove the urethane locking collars from the stub ends.



Remove both tension cartridges from the mainframe.

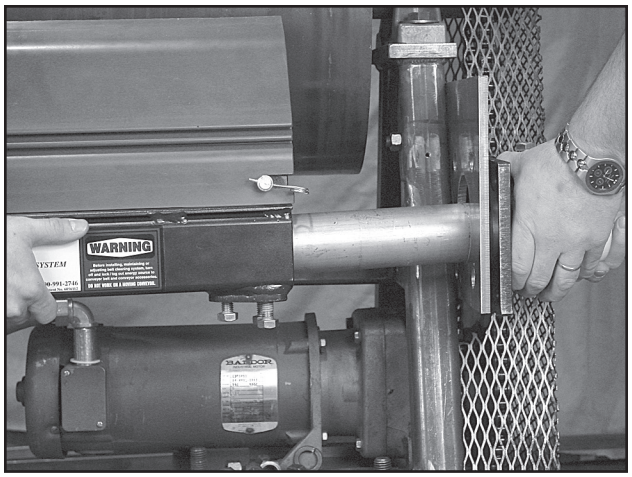


If there is room, slide the first tensioner cartridge through the chute wall and line up the mounting spool with the template that was transferred to the chute wall. Now bolt or weld into place.

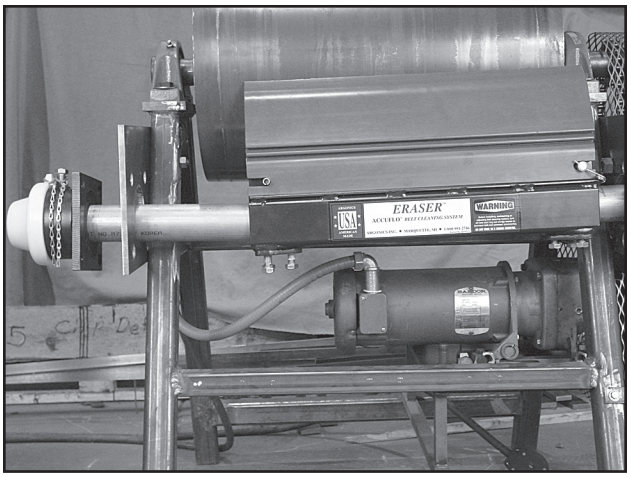


Lift the mainframe into position. Slide the mainframe onto the cartridge, then temporarily retighten the three setscrews on the tensioner side to stabilize system.

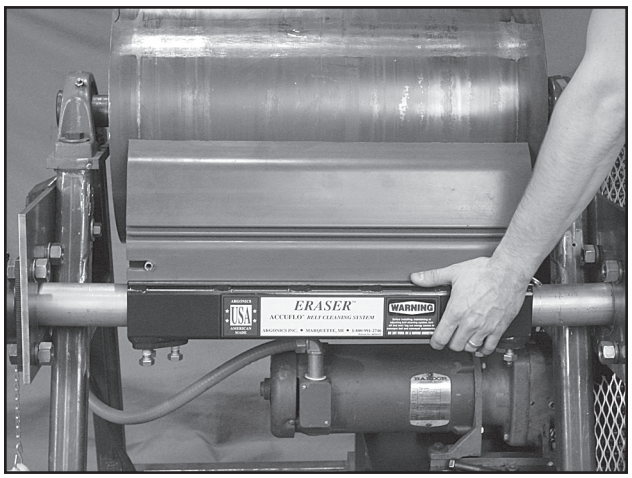
INSTALLATION - Dual Tensioner



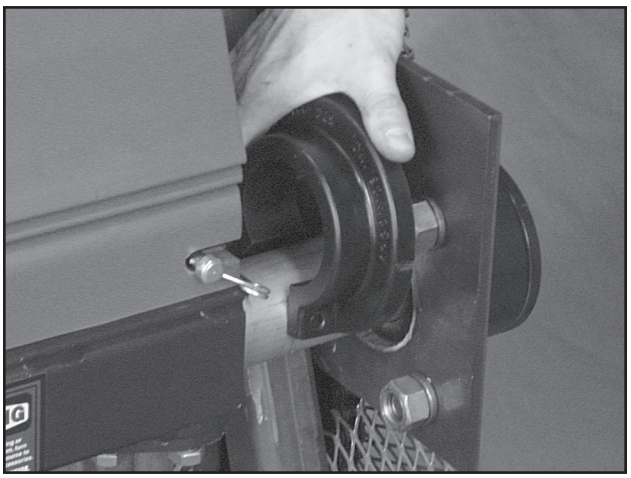
If there is not a lot of room between the chute walls, hold the mainframe in place and slide the tension cartridge into the mainframe. Bolt or weld the mounting spool into position and tighten the setscrews.



Slide the second tensioner cartridge through the chute wall and insert into mainframe. Temporarily retighten the setscrew on tensioner side to stabilize system. Bolt or stitch weld the mounting spool on the tensioner cartridge to the chute wall.



Loosen the setscrews and center the mainframe and blade to the belt. Tighten the setscrews to secure the stub ends.



Install the urethane locking collars by sliding them over the stub end, snugging them to the chute wall. Tighten the bolts to secure.

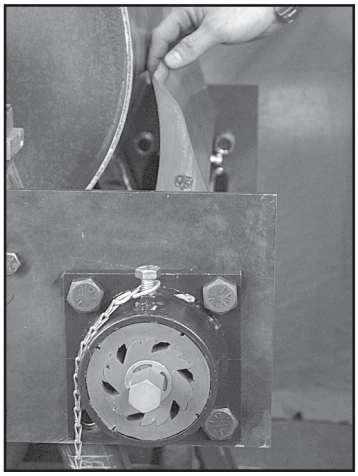
IMPORTANT

At the top point of the mounting spool, the inner ratchet catch must always point away from the load pulley.

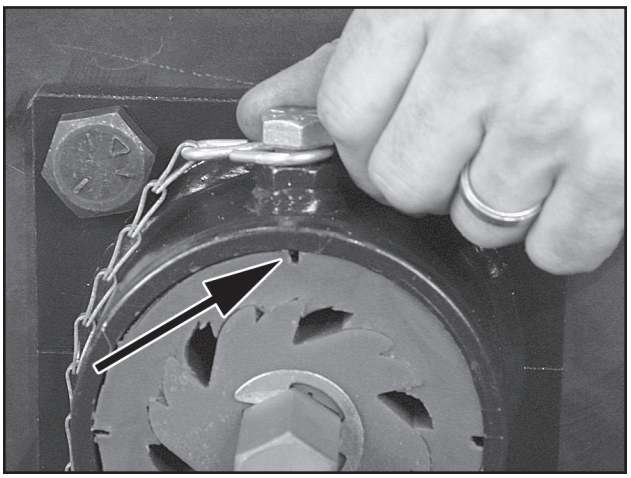
INSTALLATION - Tensioning

Step Four: Tensioning

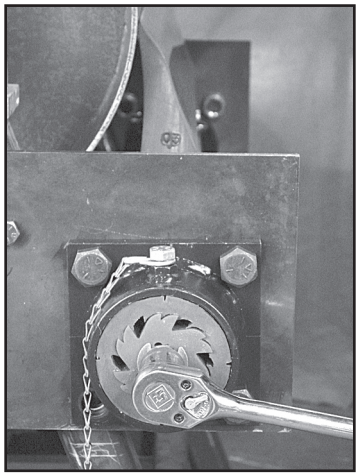
The Hybrid Mine Duty cleaner is equipped with our patented internal Perma-Torque tensioner and our Safe Torque ratchet system. The Perma-Torque is an adjustable elastomeric tensioner. The tensioner may be adjusted from a recommended minimum of 30 foot-pounds of force to a maximum of 100 foot-pounds. Exceeding tensioning of 18 clicks or 270° of rotation could damage the tensioner as well as the Safe Torque ratchet system. Four (4) clicks, or 60° of rotation is recommended for most applications.



To tension, first position the alignment notch on the outer ratchet catch with the mounting spool set screw. Grab the blade and rotate to align the ratchet notch.



When notch is aligned, tighten the setscrew. (Arrow indicates proper notch position.)



Use a 1" socket wrench on the exposed tensioner hex rod and turn the tensioner up and towards the pulley until the blade makes contact with the belt. Start tensioning by counting the clicks until you have reached the desired rotation. Four (4) clicks or 60° of rotation is the factory recommended setting. Repeat the same number of clicks on the opposite side for a dual tensioner system. Re-attach the dust cap(s).

Guideline for tensioning belt cleaning systems			
Blade width (in)	Blade width (mm)	No. of clicks	Torque (ft-lbs)
28-34	711-864	3	42
40	1016	4	49
46	1168	5	55
52	1321	6	62
58-70	1473-1778	8	74

Do Not Overtension

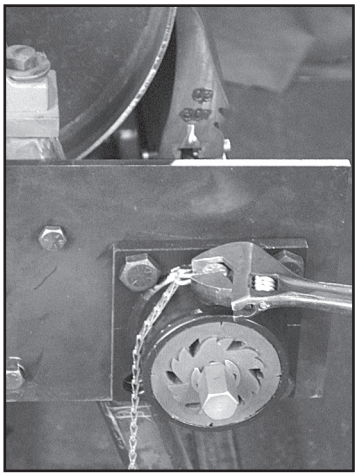
Overtensioning will result in increased blade wear

WATCH THE TENSIONING VIDEO

NOTE:

On Dual Tensioner systems, tensions should be adjusted equally.

Releasing Tension



When you need to release tension, just loosen the mounting spool set screw. You will see the outer ratchet rotate as the tension is released.

Installation of your Argonics Hybrid Mine Duty belt cleaning system is now complete. Maintenance or re-tensioning should not be required throughout the life of the blade.

NOTES

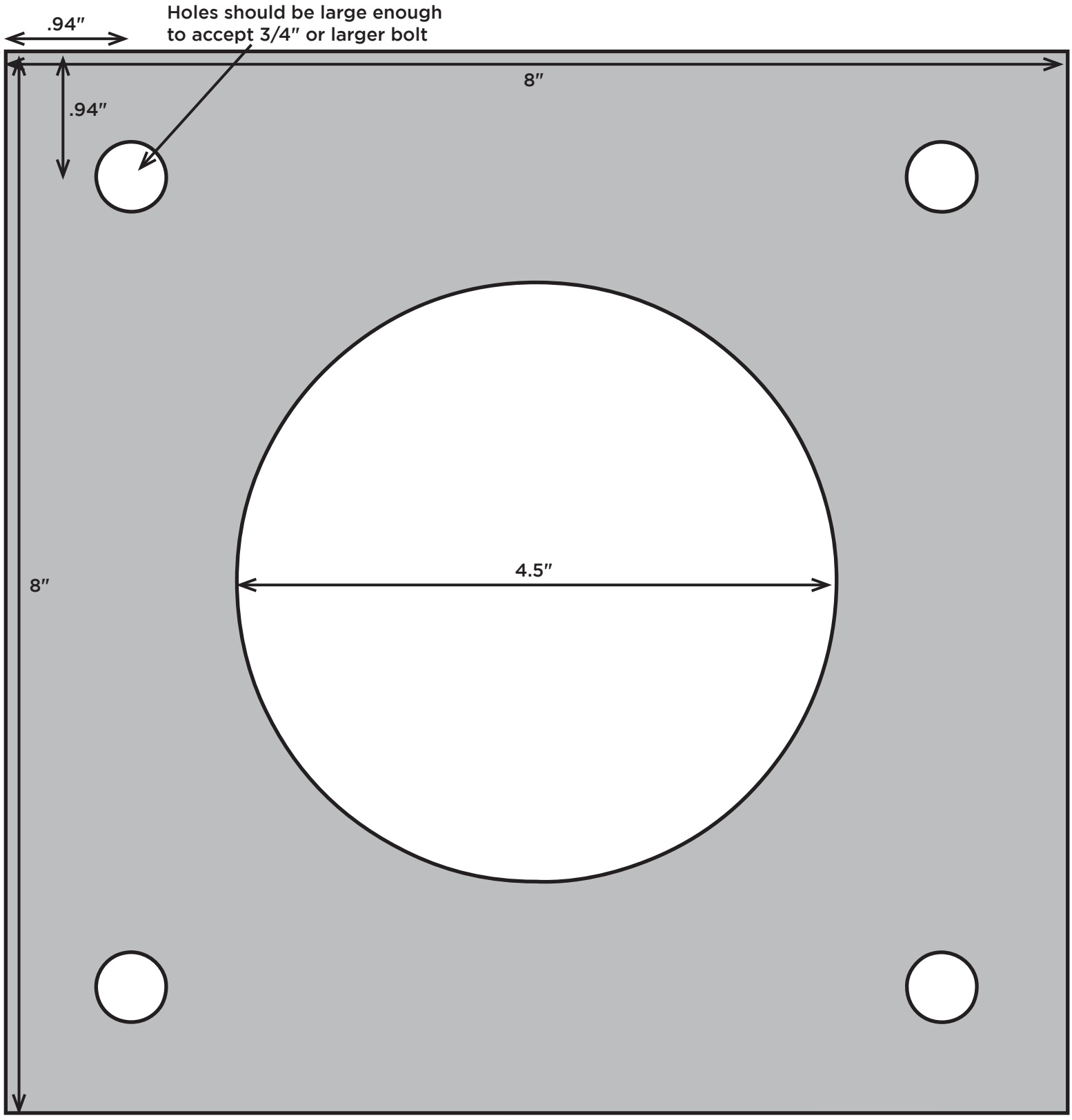
TROUBLESHOOTING GUIDE

Problem	Probable Cause	Suggested Solutions
Excessive Blade Wear	Cleaner under/over tensioned	Adjust to correct tension
	Cleaner installed in wrong location	Ensure the "Z" dimension is correct and adjust if necessary
	Wrong urethane for material	Consult Argonics or your distributor for proper urethane selection
	Mechanical splice damaging blade	Repair, skive or replace splice
	Damaged belt	Fix damaged area or replace belt
Wear on center of blade (smiley effect)	Blade wider than material path	Replace with shorter blade (just outside material path)
	Wrong urethane for material	Consult Argonics or your distributor for proper urethane selection
Unusual wear or damage to blade	Mechanical splice damaging blade	Repair, skive or replace splice
	Belt damaged or ripped	Repair or replace belt
	Cleaner installed in wrong location	Ensure the "Z" dimension is correct and adjust if necessary
Vibration or noise	Cleaner installed in wrong location	Ensure the "Z" dimension is correct and adjust if necessary
	Cleaner running on empty belt	Use a spray pole to lubricate belt when running dry
	Cleaner under/over tensioned	Adjust to correct tension
	Cleaner not securely fastened	Check and tighten all bolts and nuts
	Cleaner not square to head pulley	Ensure the "Z" dimension is correct and adjust if necessary
	Material buildup in chute	Clean up buildup on cleaner and in chute
Poor Cleaning Performance	Cleaner under/over tensioned	Adjust to correct tension
	Cleaner installed in wrong location	Ensure the "Z" dimension is correct and adjust if necessary
	Urethane blade worn or damaged	Install new blade
Blade pushed away from pulley	Cleaner tension set too low	Increase tension, add a second tensioner if system only has one
	Sticky material is overpowering cleaner	Ensure that set screw is seated in the notch of the outer ratchet catch (see page 8 of install guide)
		Add a second tensioner if a single tensioned system
		Replace with shorter blade (just outside material path), use a harder urethane and increase tension of system
		Replace with larger size cleaner
	Cleaner not set up correctly	Ensure the "Z" dimension is correct and equal on both sides
Blade flipping through	Cleaner installed too far away from pulley	Ensure the "Z" dimension is correct and adjust if necessary
	Cleaner too small for pulley	Replace with larger size cleaner

NOTES

MOUNTING TEMPLATE

Transfer the drawing below to cardboard, and use as your mounting spool template.



Template is drawn to actual size.

OTHER QUALITY PRODUCTS FROM ARGONICS

THE MOST RELIABLE AND COST-EFFECTIVE SKIRTING AVAILABLE

MADE WITH KRYPTANE® POLYURETHANE

Argonics formulates unique proprietary Kryptane polyurethane materials tailored to meet the demands of your wear application, whether it be sliding or impact abrasion, sticking or corrosion.

BENEFITS OF ARGONICS POLYURETHANE SKIRTING:

- 6 - 10 times the wear life over rubber
- 60% lower coefficient of friction compared to rubber, which reduces drag on conveyor motor
- Will not groove your conveyor belt when installed correctly

DUO SEAL™

Engineered from 100% urethane, Duo Seal seamlessly integrates with most manufacturers' clamping systems, including our proprietary Wedge-Loc clamp.

The Duo Seal is designed with a flexible secondary seal that aligns perfectly with the belt, effectively containing dust and material. Its streamlined, compact design minimizes the amount of belt space needed outside the conveyor for installation.

SNAP-LOC™ DUST SEAL

Snap-Loc is the gold standard for dust containment skirting. This straight-forward, no-nonsense design for dust control snaps into standard unistrut railing that can be bolted or welded into place.

Snap-Loc Dust Seal is engineered to create a perfect seal that follows the contours and low spots of the belt between trough rollers. No additional adjustments are needed for the life of the seal, saving you in both cost and hours of maintenance.

LOAD ZONE CONTAINMENT SKIRTING

Designed to do one thing and do it well: contain material at the transfer points on your belt line. The extra-rugged reinforced design with ¼" steel means that our Containment Skirting is extremely effective in reducing spillage, resulting in reduced clean-up labor.

Containment skirting is available with either a flat or 20°, 30°, or 45° beveled edge, and in a variety of lengths. Varying heights and thicknesses available.

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