

Installation Guide

 **ARGONICS**
ENGINEERED POLYURETHANE



MES™

Conveyor Belt Cleaning System



⚠ WARNING

Always obey all applicable safety rules.

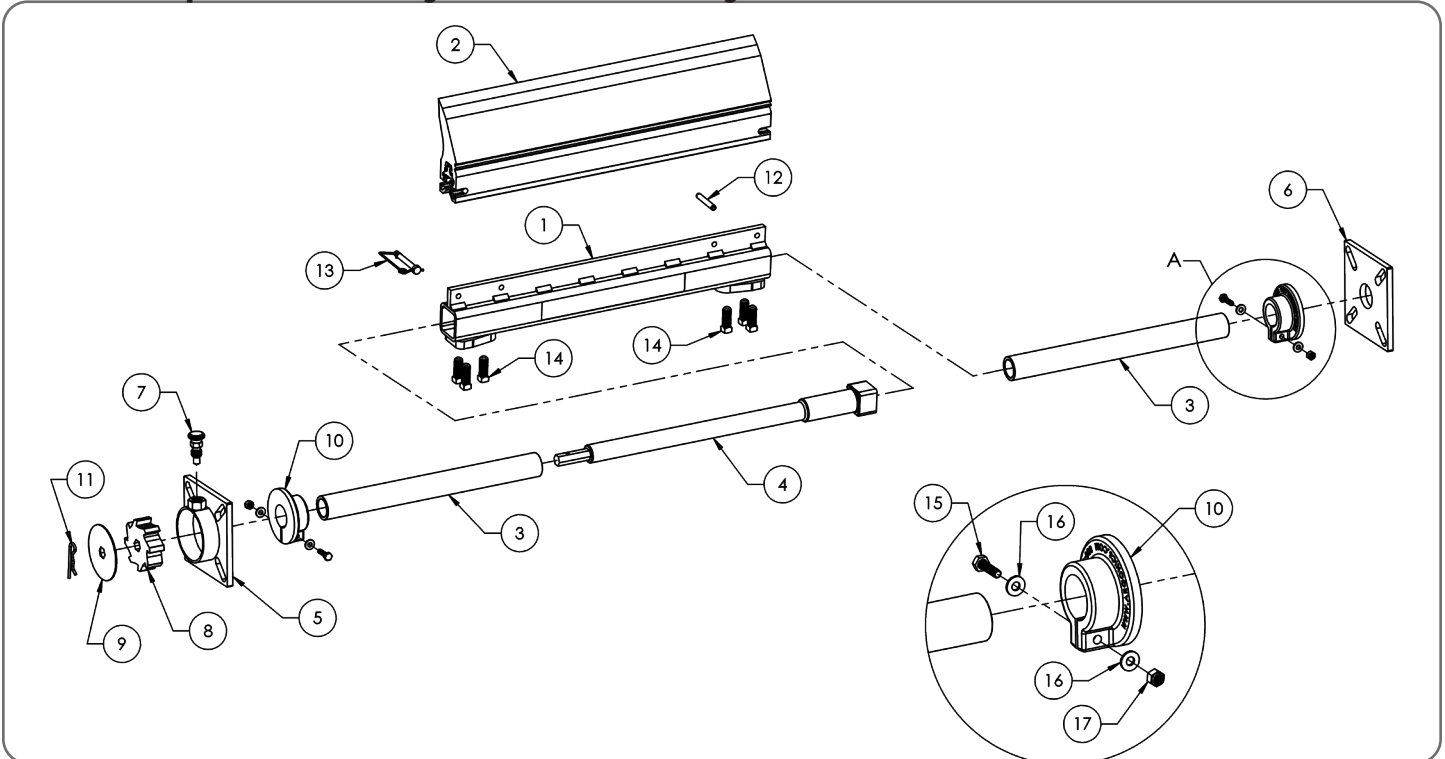
Be sure all power to the conveyor has been disconnected and controls are locked out.

Installation Tools Required

- Tape measure
- Cutting Torch or Hole Saw (2")
- Level
- Scribe or Chalk
- Welder or Drill
- 1/2" End Wrench
- 5/8" End Wrench

Bolts, lock washers and nuts for mounting are not supplied

Safe Torque Ratchet System - Assembly Breakdown



DETAIL A

Number	Part Number	Quantity	Description
1	CP-MI-"XX" A	1	Mainframe
2	CP-MR-"XX"-G83	1	Blade
3	CP-MI-15B-P	2	Standard Stub End
4*	CP-MES-1550E-B93	1	Tensioner
5*	CP-MES-550	1	Mounting Spool
6	CP-MES-550-ST	1	Mounting Plate
7*	CP-MES-5811	1	Spring Plunger Pin
8*	CP-MES-325-B90	1	Ratchet Catch
9*	CP-MES-35-F	1	Retaining Washer
10	CP-MI-LC45-G90	2	Locking Collar
11	CP-MI-2125	1	Self-Locking Twist Pin
12	CP-AR-303	1	Spring Pin 5/16" x 2" Long
13	CP-AR-275	1	Safety Snap Pin 5/16" x 2-1/2" Long
14	CP-AR-5125S	6	Set Screw 1/2"-13UNC x 1-1/4" Long SS
15	BOLT-0.25X1.50NC	2	Bolt 1/4"-20 x 1-1/2" Long
16	WASH-0.25-F-Z	4	Washer 1/4" Flat
17	NUT-040	2	Nylock Nut 1/4"-20

* Systems 36" and above come standard with dual tensioners and require double of each of the noted parts.

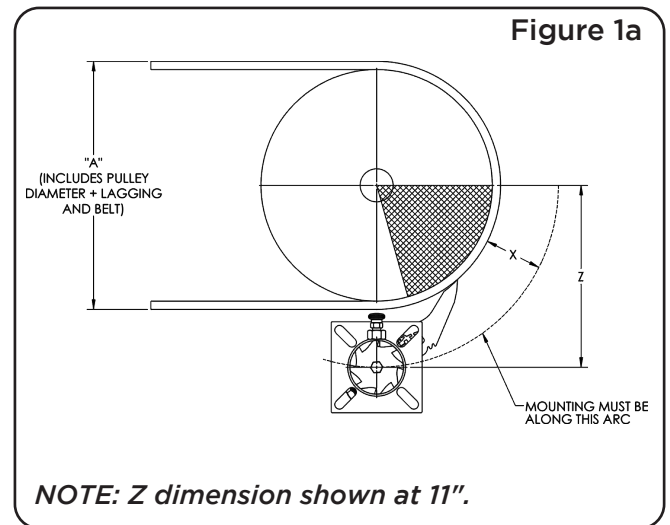
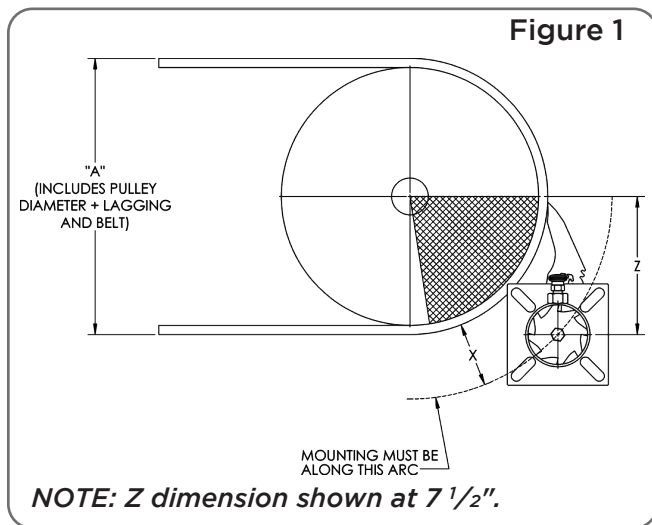
Note:

This MES primary belt cleaning system is designed to be used on conveyor pulleys up to 16" in diameter.

Step One: Calculations

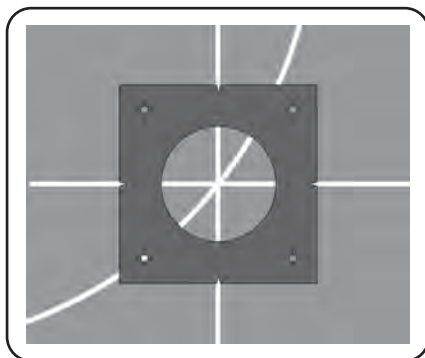
NOTE: Shaded areas in Figures 1 and 1a represent acceptable mounting locations.

Dimension Table - Table 1		
Dia. "A"	X	Z
< 10"	4.0"	7.5" min.
10"-16"	3.5"	7.5" min.
>16"	3.0"	7.5" min.

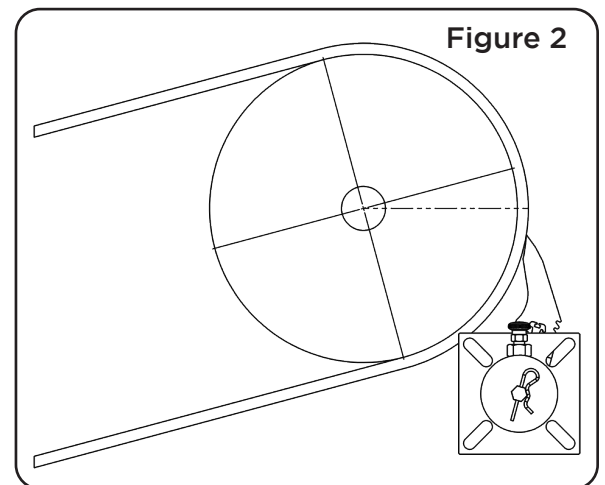


Step Two: Layout

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



ATTENTION: Tip of blade is below horizontal axis.

Repeat the layout procedure on the opposite mounting structure. For single tensioner, follow instructions on page 4. For dual tensioner, turn to page 6.

INSTALLATION - Single Tensioner

Step Three (A): Mounting systems equipped with a single tensioner

Cut the tensioner hole which was scribed on the mounting structure (your finished hole should be approx. 2" in diameter).

NOTES:

- For Bolt In Only - Using the bolt circles that you scribed as a guide, drill four $\frac{9}{16}$ " diameter holes to accept $\frac{1}{2}$ " diameter grade 8 bolts.

Single tensioner MES systems are shipped with the tensioner on the left side, facing the head pulley. If you need to mount your tensioner on the right side please refer to tensioner assembly instructions on page 9.



Using a $\frac{1}{2}$ " end wrench, loosen the three setscrews located on the bottom of each end of the mainframe. Remove the entire tensioner cartridge from the mainframe. Remove the locking collars from both.



Remove the mounting plate from the non-tensioner side of the system. Line up the plate with the holes in the chute wall, then bolt it into place using four $\frac{1}{2}$ " grade 8 bolts and lock washers. You can also choose to stitch weld on the flat sides of the mounting plate.

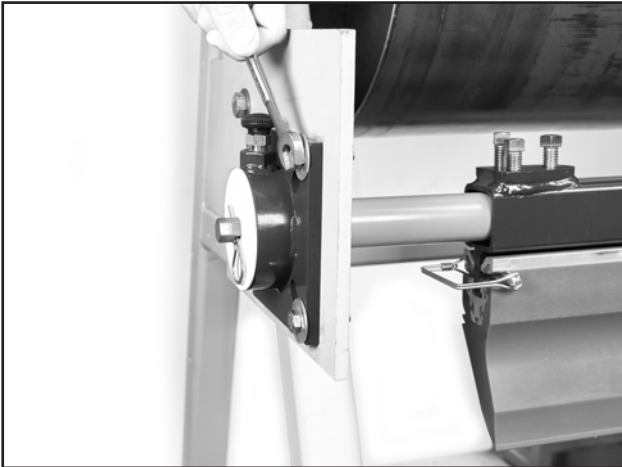


Slide the tensioner cartridge into the chute wall but do not bolt it onto the chute wall yet.



Lift the mainframe into position. Slide the system onto the tensioner and then insert the stub end into the mounting spool on the other side.

INSTALLATION - Single Tensioner



Allow the system to hang freely. Bolt the tensioner spool to the chute wall, with the spring plunger pointing upward.



Center the mainframe and blade on the belt. Tighten the setscrews to secure the stub ends and replace the locking collars.

PROCEED TO TENSIONING INSTRUCTIONS ON PAGE 8

INSTALLATION - Dual Tensioner

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

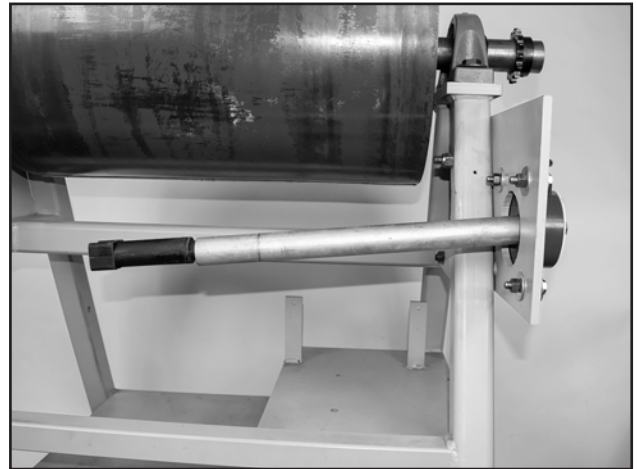
Cut the tensioner holes which were scribed on the mounting structure (your finished holes should be approx. 2" in diameter).

NOTES:

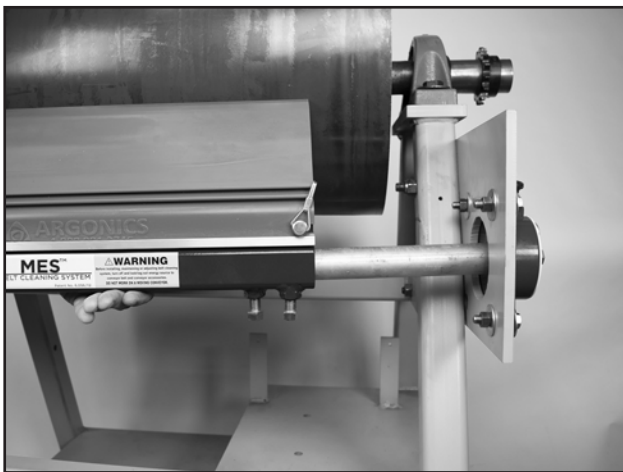
- For Bolt In Only - Using the bolt circles that you scribed as a guide, drill four $\frac{9}{16}$ " diameter holes to accept $\frac{1}{2}$ " diameter grade 8 bolts per mounting spool.



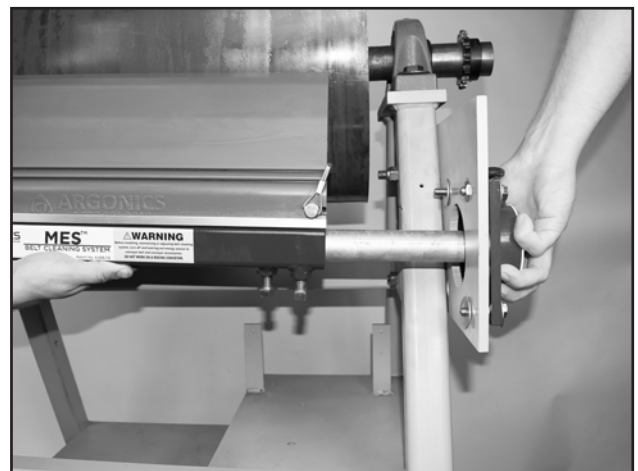
Remove both tension cartridges from the mainframe and remove the locking collars.



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.

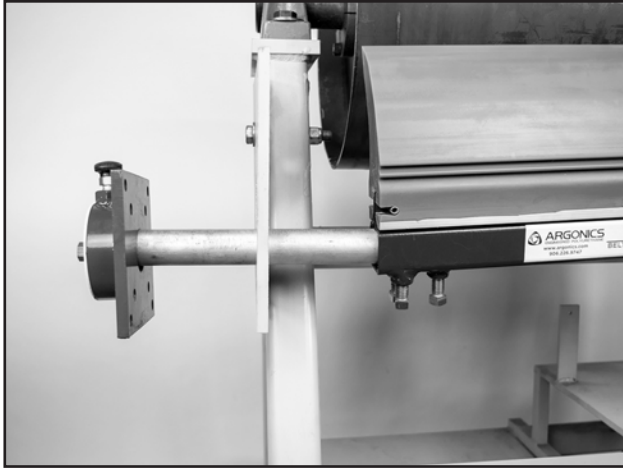


Lift the mainframe into position. Slide the mainframe onto the cartridge, then temporarily retighten the three setscrews on the tensioner side to stabilize system.



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.

INSTALLATION - Dual Tensioner



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. Replace locking collars.

PROCEED TO TENSIONING INSTRUCTIONS ON PAGE 8

INSTALLATION - Tensioning

Step Four: Tensioning

The MES system is equipped with our patented internal Perma-Torque tensioner and a urethane-coated, steel-core ratchet system. The Perma-Torque is an adjustable elastomeric tensioner. The tensioner may be adjusted from a recommended minimum of 15 foot-pounds of force to a maximum of 50 foot-pounds. Exceeding tensioning of 8 clicks or 360° of rotation could damage the tensioner as well as the ratchet system. Three (3) clicks, or 135° of rotation is recommended for most applications.



To tension, first ensure that the top point of the tensioning ratchet is pointing away from the conveyor load pulley. **IMPORTANT: When removing and replacing ratchet and retainer washer cover, use caution to ensure the hex end of tensioner is not pushed into the mainframe.**

With the retainer washer cover over the ratchet and the self-locking twist pin installed, use an adjustable wrench or 5/8" socket wrench to ratchet the tensioner until the blade is flush against the belt.



Once the blade is in contact with the belt, start tensioning by counting the clicks until you have reached the desired rotation. Three (3) clicks is the factory recommended setting. Repeat the same number of clicks on the opposite side for a dual tensioner system.

Guideline for tensioning belt cleaning systems				
Blade width (mm)	Blade width (in)	No. of clicks	Lbs of force	
300-550	12-22	3	20	Single Tensioner
600-850	24-34	4	25	
900-1150	36-46	3	20	Dual Tensioner
1200-1450	48-58	4	25	

Do Not Overtension
Overtensioning will result in increased blade wear

Releasing Tension



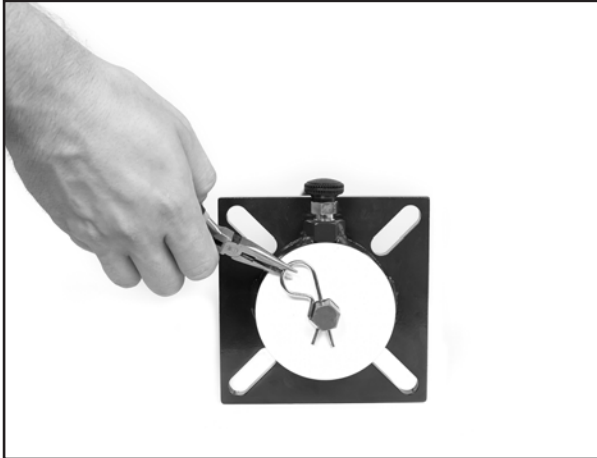
When you need to release tension, use wrench to take the tension off the spring pin and pull up on the spring plunger. While holding the plunger up, allow the tensioner to slowly untwist and relieve tension.

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

INSTALLATION - Left to Right Tensioner Conversion

Tensioner Conversion Instructions

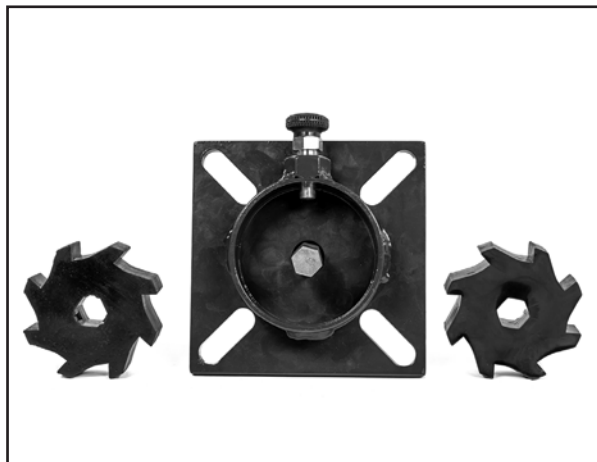
To mount a single tensioned MES system with the tensioner on the right side instead of the left side, you will need to switch the entire tensioning spool to the other side of the mainframe, as well as the direction that the ratchet gears are oriented. It is recommended that you perform this conversion on the ground before the system is mounted.



Remove the self-locking twist pin from the hex rod using pliers. Be sure not to lose the pin. Remove the retainer washer cover.



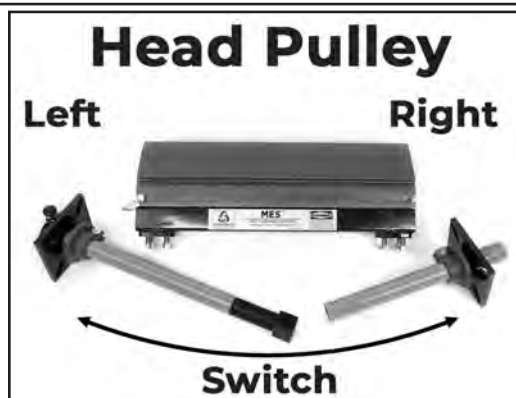
Remove the tensioning ratchet from the mounting spool. Make a note of which way the ratchet gear is pointing.



Flip ratchet so the gear teeth are pointed in the opposite direction and slide back onto the hex rod.



Put the retainer washer cover back on and put the self-locking twist pin back into the hex rod.



Your MES system comes with the tensioner mounted on the left. You will need to switch the entire mounting spool assembly to the right side of the mainframe.

IMPORTANT

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

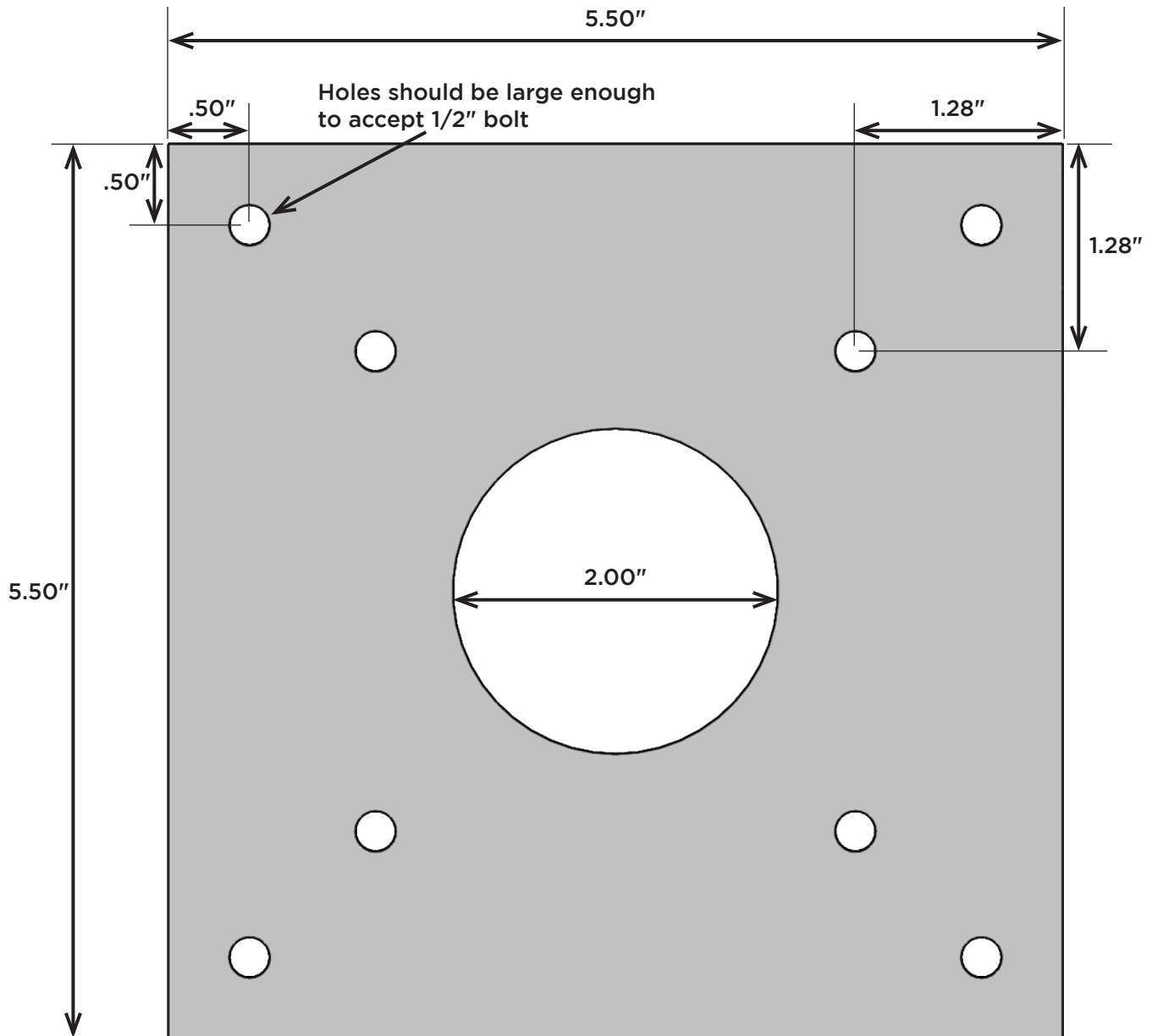
Continue following the installation instructions located on page 4.

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 spring plunger is seated in the notch of the tensioning ratchet (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

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



FOLD-N-SEAL™

If you're looking for a quality multi-sealing conveyor skirting solution that isn't hard on your budget, look no further: Fold-n-Seal is your answer.

Fold-n-Seal gives you the best of both worlds: material and dust containment in one unique solution. The primary seal keeps the material where it should be - on the belt. The secondary seal keeps dust and particulate material under control.



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 1/4" 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° beveled edge, and in 60" and 96" lengths. Varying heights and thicknesses available.

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