Important Safety Notice

Always observe the basic rules of safety when working with any conveyor system. To avoid injury and equipment damage, be sure that all controls to the conveyor are locked out and the power source is disconnected at all times during installation and maintenance.

Overall View
If mounting structure is not available, additional steel may have to be added. Note: Excess mounting tube may be trimmed after installation.

Components Diagram

1. Razor-Back® Retractable Mounting Tube
2. Spring-Shoc Tensioner (Push-Up Position)
3. Razor-Back® Blade Tip
4. Cartridge Blade Holder
Spring-Shoc Tensioner Components

5. Mounting Bracket
6. Upper Block
7. Lower Block
8. Compression Spring
9. Push-Up ACME Adjustment Bolt
10. Clamp Bolts
11. Push-Up Bracket
12. Push-Up Spring Bushing (Half Hole Locator)
13. ACME Lock Down Nut
Determine Cleaner Mounting Location

The Razor-Back® Retractable is a secondary belt cleaner and as such should be located on the return side of the belt after the belt leaves contact with the head pulley as shown below. Preferably it should be located within the confines of the head or dribble chute.

![Diagram of Razor-Back® Retractable with Spring-Shoc™ Tensioners]

**Figure 1. Typical Cleaner Mounting Locations**

The recommended clearance from the belt tangent point off the head pulley to the tip of the cleaner blade is 4 inches (100 mm).

The recommended clearance between the tip of the cleaning blade and a snub pulley is 5 ½ inches (140 mm).
Locate Mounting Bracket

The Mounting Bracket should be attached to the chute wall or conveyor structure using the four mounting holes and ½ -13 UNC x 2 ½ inch hex head bolts, see Figure 2 for mounting hole dimensions.

The Mounting Brackets can also be welded in place. (Note: the Mounting Brackets are a Powder Coated Mild Steel)

Figure 2. Mounting Bracket Dimensions

- To determine the desired location of the mounting brackets, locate the bottom edge of the belt.

- The center of the top mounting holes of the Mounting Bracket should be located MO inches below the bottom edge of the belt.
• With the Mounting Bracket held in place, mark the location of the four mounting holes. Then using a 9/16 inch drill bit or a torch, cut the four bolt holes into the conveyor chute or frame work. As noted above the Mounting Bracket can also be welded in place.

If the Mounting Brackets are to be mounted to an enclosed chute, an elongated hole will have to be cut into the chute wall to allow the blades and the mounting tube to pass through from one side of the conveyor to the other. See Figure 4.
Cut Chute Openings

Figure 4. Chute Openings Dimensions

Spring-Shoc™
Tensioner Assembly

Assembly of the Spring-Shoc™ Tensioner is shown in Figure 5. The left image is the Tensioner in Pull-Up Position and the right image is for the Tensioner in Push-Up Position. All the parts are provided to assemble the tensioner in either position. Duo-Spring position specific hardware is shown in Figure 5.

Figure 5. Spring-Shoc™ Tensioner Assembly
After assembling Spring-Shoc™ Tensioners, remove upper blocks and insert mounting tube.

Slide cartridge onto mounting tube, being cautious not to push the mounting tube out of the tensioner.

With the cartridge fully engaged on the lock pin, center the blade on the belt. Once centered, clamp down the mounting tube on the opposite side using the upper block supplied clamp bolts. This will secure mounting tube from any lateral movement, allowing the cartridge to be removed while the mounting tube remains stationary.

Secure the upper block on the handle side to secure the cartridge. Any excess material may be cut from the mounting tube or cartridge if interferences occur.
Blade Positioning and Alignment

Raise the Slide Blocks by evenly turning the adjustment bolts until the blade just contacts the belt. Check that the blade is evenly contacting the belt along the entire length of the blade. Once uniform blade/belt contact has been achieved, evenly raise the Slide Blocks causing the spring to load. Continue to tighten until sufficient upward force (blade pressure) has been achieved see Table 2 below. Spring Height (H) is the suggested tension starting point See Figure 9. Firmly tighten the lock nut on the two adjustment bolts. It maybe possible that there is enough play in the belt that there can be enough downward force via belt weight so that compressing the spring may not be necessary.

Table 2. Spring-Shoc Tensioner, Tension Chart

<table>
<thead>
<tr>
<th>Belt Width</th>
<th>Spring Height (H)</th>
<th>Spring Compression</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>4 3/4 [120mm]</td>
<td>1/4 [6mm]</td>
</tr>
<tr>
<td>24</td>
<td>4 11/16 [119mm]</td>
<td>5/16 [7mm]</td>
</tr>
<tr>
<td>30</td>
<td>4 5/8 [117mm]</td>
<td>3/8 [9mm]</td>
</tr>
<tr>
<td>36</td>
<td>4 9/16 [115mm]</td>
<td>7/16 [11mm]</td>
</tr>
<tr>
<td>42</td>
<td>4 1/2 [114mm]</td>
<td>1/2 [12mm]</td>
</tr>
<tr>
<td>48</td>
<td>4 11/16 [119mm]</td>
<td>5/16 [7mm]</td>
</tr>
<tr>
<td>54</td>
<td>4 5/8 [117mm]</td>
<td>3/8 [9mm]</td>
</tr>
<tr>
<td>60</td>
<td>4 9/16 [115mm]</td>
<td>7/16 [11mm]</td>
</tr>
<tr>
<td>72</td>
<td>4 1/2 [114mm]</td>
<td>1/2 [12mm]</td>
</tr>
<tr>
<td>84</td>
<td>4 7/16 [112mm]</td>
<td>9/16 [14mm]</td>
</tr>
<tr>
<td>96</td>
<td>4 3/8 [111mm]</td>
<td>5/8 [15mm]</td>
</tr>
</tbody>
</table>

Note: Belt Widths of 48 inches and above use the Heavy Duty Silver Spring.

Spring Height (H) Measurement Location

Test run the conveyor.
OPERATION & MAINTENANCE

After one day of operation:

1. Inspect the cleaner for proper belt cleaning and operation.

Weekly:

1. Frequent inspection is the key to proper belt cleaning and easy Scraper servicing. Weekly inspections are recommended, but actual service frequency may vary widely depending on various plant operating conditions.

2. Wash the entire cleaner regularly to prevent excessive buildup. If material tends to accumulate on the Scraper Assembly then possible scraper relocation may be in order.

3. Carefully inspect the wear tips of the cleaner blades. Make sure blades are not chipped or worn out.

4. Inspect the belt surfaces and edges for cracks, splits, tears, holes or any other worn or damaged condition occurring on the surfaces or edges of the belt itself. If necessary make repairs to the belt.
## TROUBLESHOOTING

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Excess vibration of the scraper.</em></td>
<td>Make certain all bolts are tight.</td>
</tr>
<tr>
<td><em>Excess carryback.</em></td>
<td>Check for proper Scraper tension. Put additional tension on cleaner.</td>
</tr>
<tr>
<td><em>Excess belt movement, cupping</em></td>
<td>Install a hold down roller to stabilize the belt surface.</td>
</tr>
<tr>
<td><em>Unable to tension scraper properly, belt moves away from blades.</em></td>
<td>Install a hold down roller to reduce sag of the belt when tensioning.</td>
</tr>
<tr>
<td><em>Frozen material on scraper.</em></td>
<td>Place heaters near scraper to melt frozen material. (Use caution not to burn belt or cleaner)</td>
</tr>
</tbody>
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