H-Type® High-Temp Precleaner with V-Tips

Installation, Operation and Maintenance Manual

FLEXCO

Pre-installation Checks and Options

Checklist

- Check that the cleaner size is correct for the beltline width
- Check the belt cleaner carton and make sure all the parts are included
- Review the “Tools Needed” list on the top of the installation instructions
- Check the conveyor site:
    - Will the cleaner be installed on a chute
    - Is the install on an open head pulley requiring mounting structure
    - Are there obstructions that may require cleaner location adjustments

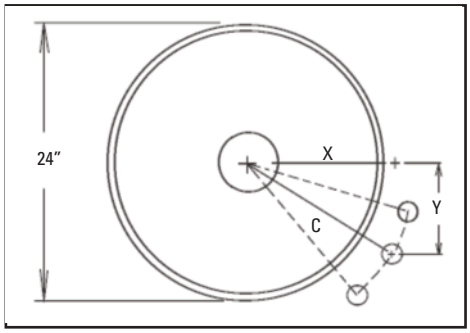
Cleaner Location Adjustments

In certain applications it is necessary to modify the location of the precleaner pole due to permanent obstacles that obstruct the desired location. Relocating the pole location can be done easily and does not hinder the performance of the cleaner as long as the "C" dimension is maintained.

NOTE: In the following example we will be lowering the pole location in the "Y" direction, but the same method could also be applied in the "X" direction.

Conveyor situation:

Pulley Diameter: 24"
X = 7-3/4"
Y = 12"
C = 14-1/4"



1. **Determine the given location dimensions and define the change needed.** After laying out the given X & Y dimensions, determine the distance of the modification required for adequate clearance of the pole and tensioning system. (In the example we decide to lower the pole 2" to clear the support structure).

2. **Write down known dimensions.** We can now determine two of the three required dimensions which will allow us to find the third. We know we cannot alter the "C" dimension, so this will remain the same. Also we are required to lower the unit in the "Y" dimension 2", so we add 2" to the given "Y" dimension.
   X = ?"
   Y = 12 + 2 = 14"
   C = 14-1/4"

3. **Determine final dimension.** On a flat vertical surface, using a level, draw one horizontal line and one vertical line creating a right triangle (Fig 3a). Measure down from the intersection the determined "Y" dimension and mark (Fig 3b). With the tape measure starting at the modified "Y" mark, swing the tape across the "X" line and mark at the "C" dimension where it crosses the "X" line (Fig 3c). Measure from the intersection to the "C" intersection and this will be your new "X" dimension (Fig. 3d).
   X = 2-5/8"
   Y = 14"
   C = 14-1/4"

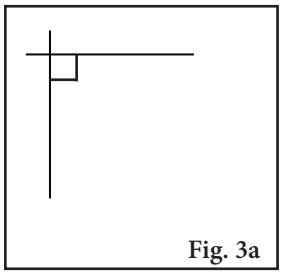


Fig. 3a

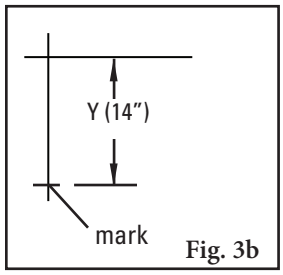


Fig. 3b

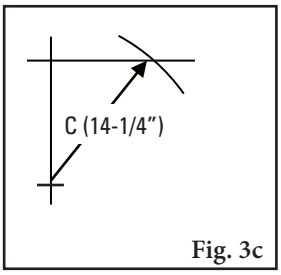


Fig. 3c

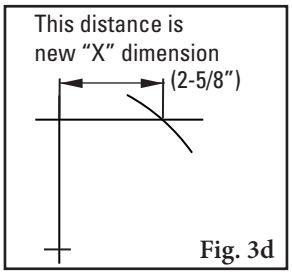
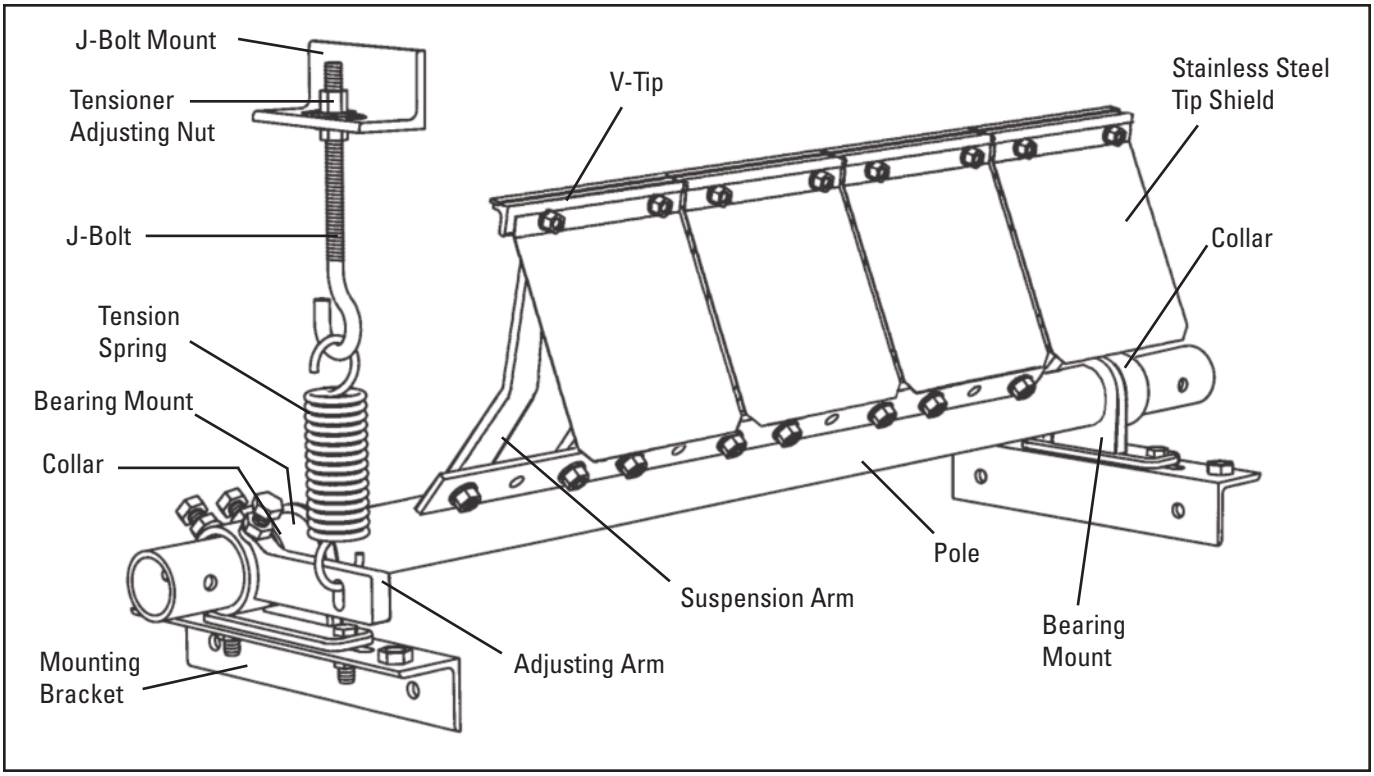


Fig. 3d

Installation Instructions

H-Type® High Temp Precleaner with V-Tips



Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

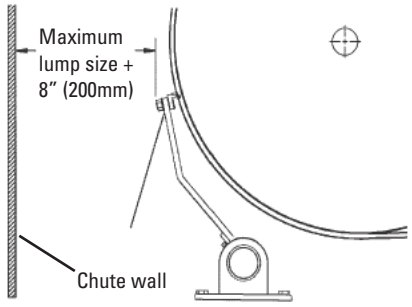
Before You Begin:

- Installation specs and instructions are based on the assumption that the conveyor is in its working position (angle). If the conveyor angle will be different, the cleaner should be installed per the final position. Call the BCP Help Line 1-800-253-8132 if you need help with determining the proper coordinates.
- Choose instructions for chute mounting or open head mounting. For chute mounting it may be necessary to cut an access hole to allow for installation and inspections. (See dimensions in Step 7 under Chute Mounting.)
- Follow all safety precautions when using a cutting torch.
- If welding, protect all fastener threads from weld spatter.

V-Tip Size	Pulley Diameter + Belt and Lagging
SS	8" - 15" (200-375mm)
S	16" - 27" (400-675mm)
M	28" - 35" (700-875mm)

Tools Needed

- Tape Measure
- 3/4" Wrench
- Ratchet With 3/4" Socket
- Adjustable Wrench
- Cutting Torch and/or Welder
- (2) 6" C-Clamps (For Temporary Positioning of Mounting Brackets)
- 24" Level or Eliminator Location Tool
- Marking Pen



Space needed to avoid clogging chute

H-Type® High Temp Precleaner with V-Tips (cont.)

Chute Mounting

1. **Find X and Y measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on pages 14 and 15. The pulley diameter measurement should include lagging and belt.

   Pulley Diameter _____"; X = _____"; Y = _____"
   Using the correct X and Y coordinates will position the cleaner at 15° below the horizontal plane on the head pulley.

2a. Measure head pulley shaft. Determine the diameter of the pulley shaft and divide by 2.

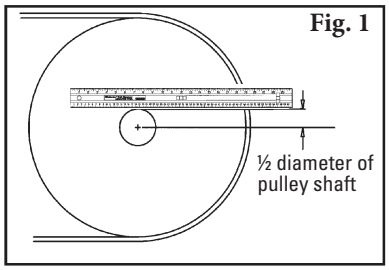


Fig. 1

2b. Put a level on top of the pulley shaft and draw a horizontal line A. Measure down from Line A half the diameter of the pulley shaft and draw Line B parallel from the pulley shaft (Fig. 1).

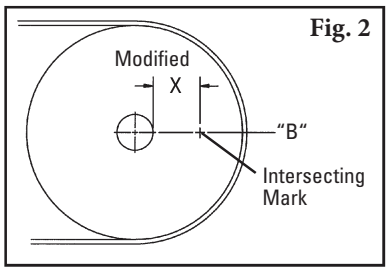


Fig. 2

3a. Mark X dimension. Subtract the above dimension (Step 2a) from the selected X dimension to establish the modified X dimension. With this new X dimension measure horizontally from the front of the pulley shaft forward on Line B and mark on the chute (Fig. 2).

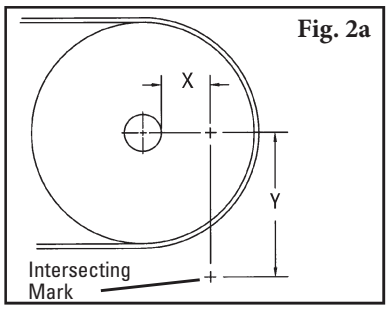


Fig. 2a

3b. Determine Y dimension. From the horizontal X mark, drop a line vertically down to the selected Y dimension and draw an intersecting mark (Fig. 2a). This is the correct position of the center of the pole.

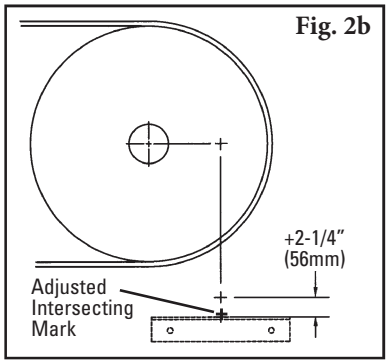


Fig. 2b

4. **Locate mounting bracket position (horizontal position).** To locate the position of the cleaner mounting bracket, add 2-1/4" (56mm) to the intersecting mark (Fig. 2b). This mark indicates the top center of the mounting bracket.

H-Type® High Temp Precleaner with V-Tips (cont.)

Chute Mounting (cont.)

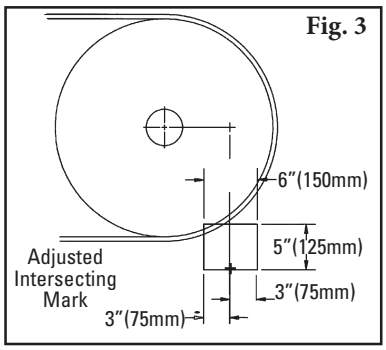


Fig. 3

5. **Cut chute opening.** Using the adjusted intersecting mark ("+") established in Step 4, lay out and cut the required opening 5" x 6" (125x150mm) on the chute (Fig. 3). If access hole is required, see Step 7.

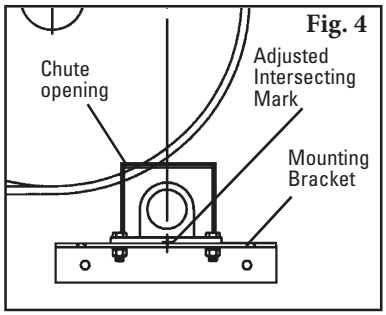


Fig. 4

6. **Install the mounting brackets.** Center the mounting bracket on the bottom of the opening. Bolt or weld in position (Fig 4). Repeat process on opposite side.

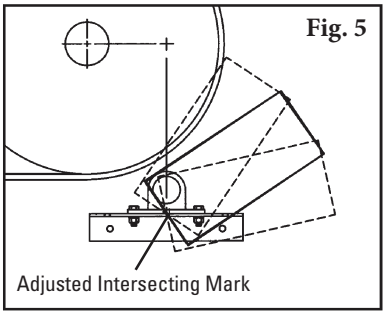


Fig. 5

7. **Cutting the access hole.** Cut access hole, centering the bottom edge on the adjusted intersecting mark ("+") established in Step 4. Width of hole should be 5" (125mm); height should be 9-1/2" (238mm) for extra small tips, 12" (300mm) for small tips or 13-1/2" (338mm) for medium tips. Access hole may be oriented within the range shown (Fig. 5), provided bottom edge is still centered as described above.

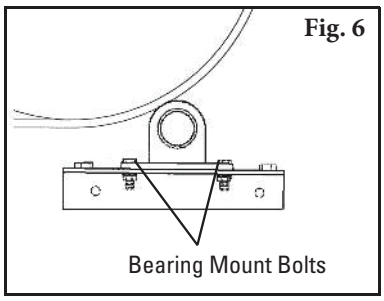


Fig. 6

8. **Install the pole.** Remove the two bearing mount bolts from one of the bearing mounts (Fig. 6). (If chute mount, remove from the side with access hole.) Slide the pole across the pulley and into the bearing mount on other side and allow tips to hang down. Install the removed bearing mount on the pole and reattach to the mounting bracket. Do not tighten; leave finger tight.

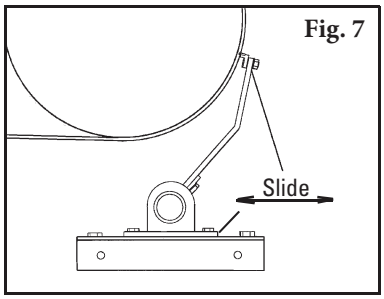


Fig. 7

9. **Position the pole.** Rotate pole upward to bring tips into contact with head pulley (Fig. 7). Center the tips across the belt. While applying light pressure on the center tip, shift loosened bearing mount until tips are contacting belt evenly across full width. Lock cleaner into this position by tightening bearing mount bolts.

For step-by-step instructions on installing the spring tensioner, refer to page 12.

H-Type® High Temp Precleaner with V-Tips (cont.)

Open Head Mounting

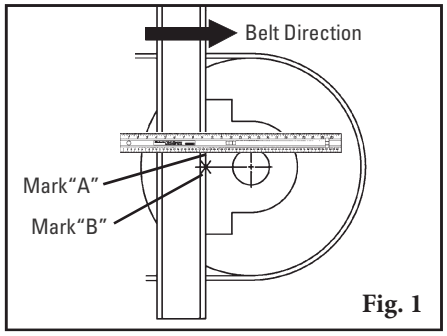


Fig. 1

1. **Find X and Y measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on pages 14 and 15. The pulley diameter measurement should include lagging and belt.

   Pulley Diameter_____" X_____" Y_____"

   Using the correct X and Y coordinates will position the cleaner at 15° below the horizontal plane on the head pulley.

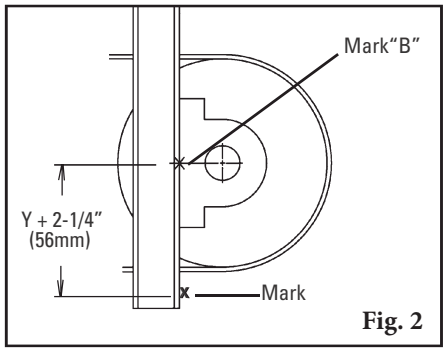


Fig. 2

2a. Locate Y location. Determine the diameter of the pulley shaft and divide by 2.

2b. Put a level on top of the pulley shaft and mark A at the structure. Measure down from Mark A half the diameter of the pulley shaft and mark B, locating the shaft centerline (Fig. 1).

2c. Measure down the given Y dimension plus 2-1/4" (56mm) and mark (Fig. 2). This mark indicates the top location of support material to be added for installing the cleaner mounting brackets.

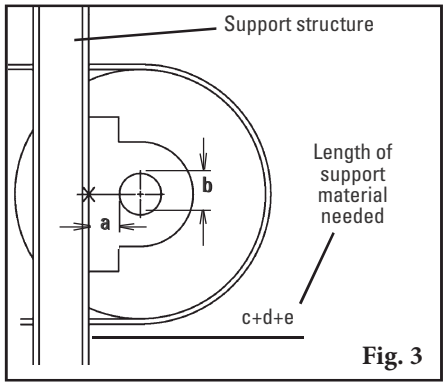


Fig. 3

a) shaft to structure _____

b) pulley shaft diameter _____ ÷ 2 _____ +

c) pulley shaft center line to structure = _____

d) add X measurement from chart _____ +

center of pole from structure = _____

e) add 7" (175mm) (half length of mounting bracket) 7" +

length of support material needed = _____

3. **Locate X location.**
   a.) Measure from the back of the pulley shaft to the support structure (Fig. 3).
   b.) Pulley shaft diameter divided by 2.
   c.) Add dimensions from a) and b). This dimension is the pulley shaft centerline to the support structure.
   d.) Add the given X dimension to c). The sum indicates the distance from the center of the pole to the support structure.
   e.) Add 7" (175mm) (half the length of the mounting bracket). The sum is the total length of support material needed to correctly locate the mounting brackets.
4. **Secure mounting support pieces to the support structure.** Weld support pieces to the support structure. 3" x 3" (75x75mm) angle works well for these support pieces.
5. **Prepare the support pieces for the cleaner mounting brackets.** Clamp the mounting bracket on the support piece. Mark and drill holes for mounting or weld.

H-Type® High Temp Precleaner with V-Tips (cont.)

Open Head Mounting (cont.)

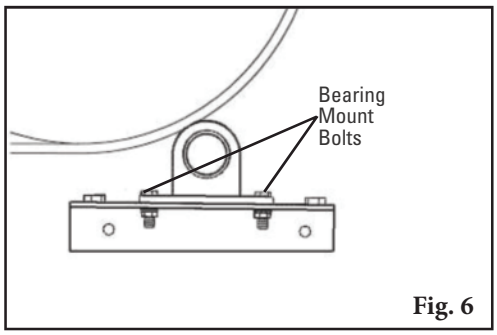


Fig. 6

6. **Install the pole.** Remove the two bearing mount bolts from one of the bearing mounts (Fig. 6). (If chute mount, remove from the side with access hole.) Slide the pole across the pulley and into the bearing mount on other side and allow tips to hang down. Install the removed bearing mount on the pole and reattach to the mounting bracket.
NOTE: Do not tighten; leave finger tight.

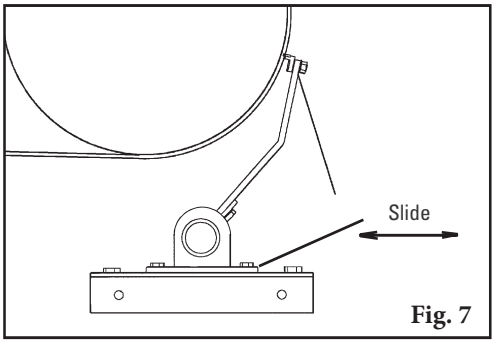


Fig. 7

7. **Position the pole.** Rotate pole upward to bring tips into contact with head pulley (Fig. 7). Center the tips across the belt. While applying light pressure on the center tip, shift loosened bearing mount until tips are contacting belt evenly across full width. Lock cleaner into this position by tightening bearing mount bolts.

Spring Tension Mounting Kit

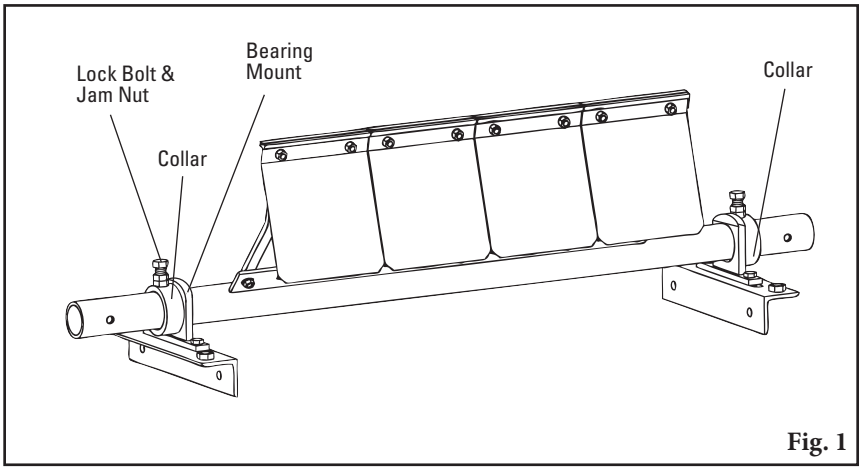


Fig. 1

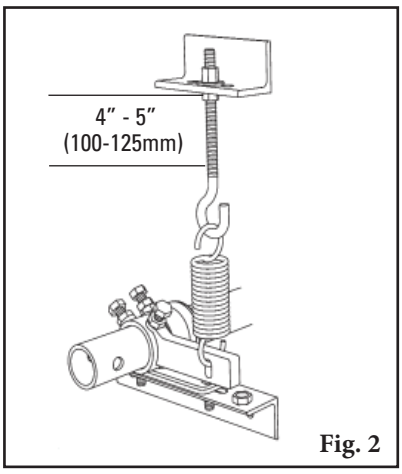


Fig. 2

8a. **Install the Tensioning System.** With the pole rotated up so that all the tips contact the head pulley, slide a collar on each end of the pole. Position the collars tight against the bearing mounts and tighten the lock bolt and jam nut on each collar (Fig. 1).

8b. **Assemble the tension spring and the J bolt mount to an adjusting arm** (Fig. 2). **IMPORTANT:** Allow for at least 4" to 5" (100-125mm) upward movement on the J bolt for future blade tip adjustments.

H-Type® High Temp Precleaner with V-Tips (cont.)

Spring Tension Mounting Kit (cont.)

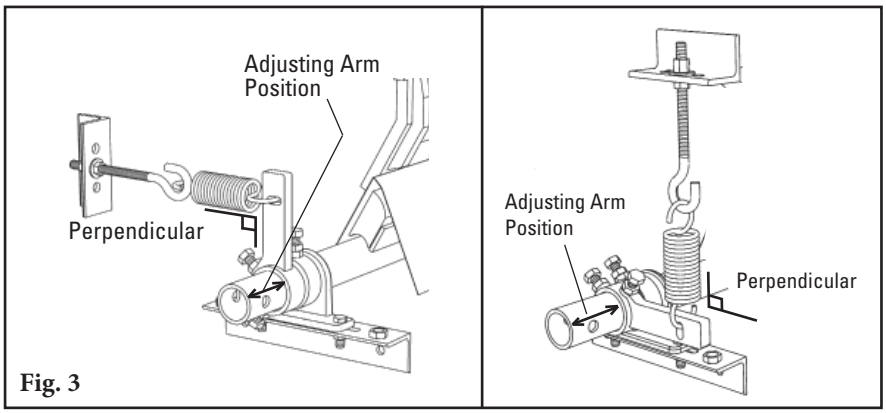


Fig. 3

8c. Install an adjusting arm onto pole end. Rotate the tensioner around the pole until the optimum mounting position is located. The J bolt mount can be located in any position 360° around the pole. The only requirement is that the J bolt and spring remain perpendicular to the adjusting arm (Fig. 3). **NOTE:** adjusting arm can be located any place along the end of the pole to align with J bolt mount.

8d. Clamp the J bolt mount in place and weld or bolt in position.

8e. With the adjusting arm positioned perpendicular to the J bolt mount, tighten the adjusting arm lock bolts and jam nuts (for optimum hold, tighten the back bolt first and then the top bolt).

8f. The 36" (900mm), 42" (1050mm) & 48" (1200mm) size cleaners require a dual tensioner. Repeat steps b) through e) on other side of cleaner.

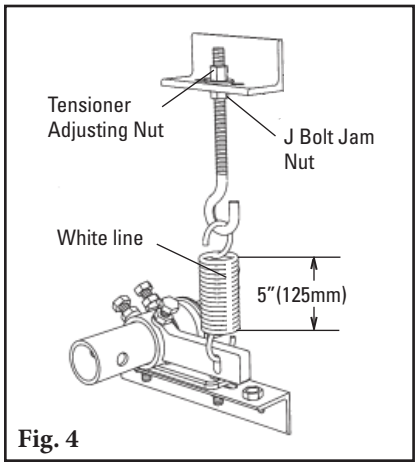


Fig. 4

9. Set the Spring Tension. Loosen the J bolt jam nut and turn the tensioner adjusting nut until the coil is 5" (125mm) long. Measure the length of the white line on the spring (Fig. 4). Complete on both sides of cleaner, if required. **NOTE:** The given spring length measurement is a starting point only. Actual length for correct cleaner blade tensioning may vary by cleaner width. Determine exact spring measurement length for your cleaner after Step 12HT is completed.

H-Type® High Temp Precleaner with V-Tips (cont.)

Spring Tension Mounting Kit (cont.)

10. **Check for Correct Blade Tip Tension.** Place the Tip Tension Gauge (supplied with cleaner) between the blade tip and belt on the center tip (or tips) (Fig. 5). While pulling in a straight motion, read the tension required to break contact between the tip and belt. 18 lbs. (8Kg) is recommended. Also check tension on both outer tips. Make tension adjustments if needed.

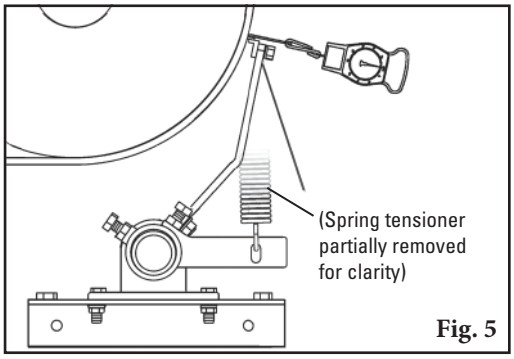


Fig. 5

11. **Measure Spring Length and Affix Label.** After the correct spring tension has been confirmed, measure the white line on the spring. Using a ballpoint pen mark the spring length on the Spring Length label provided in the packet. Affix the label on the conveyor structure near the spring for future reference for tensioning or re-tensioning the blades.

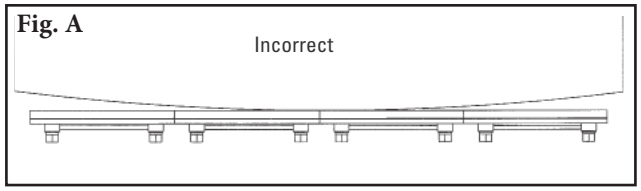
Shimming Instructions

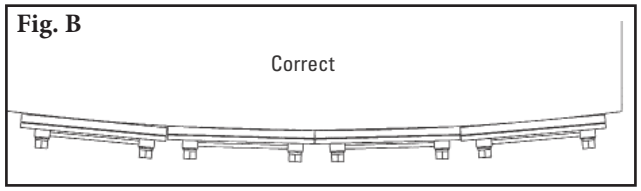
Tools Needed:

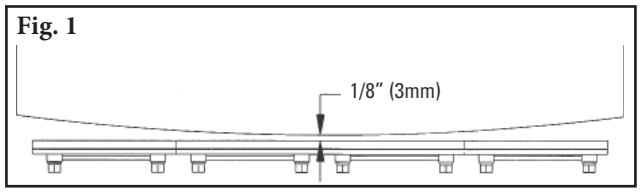
- (1) 11/16" (38mm) wrench or crescent wrenches
- (1) 1½" (38mm) wrenches or crescent wrenches
- Shim Kit (provided)

NOTE: If all cleaner tips do not make even contact across the width of the belt, the tips will require shimming (Fig. A and Fig. B).

All shimming is done between the suspension arm bases and the pole plate (Fig. 2).

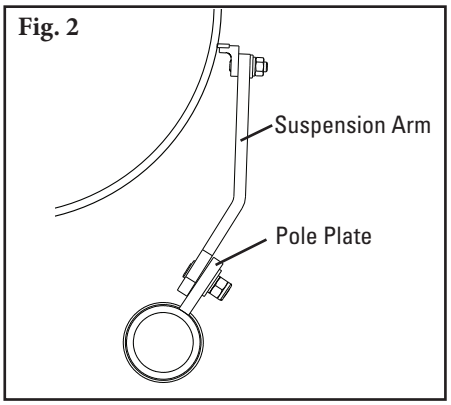




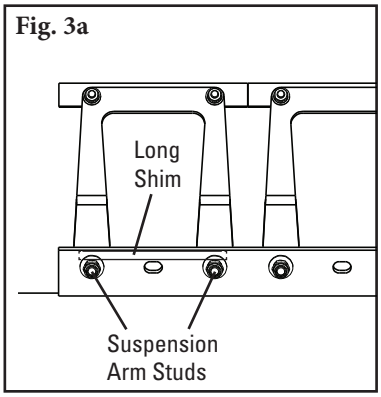


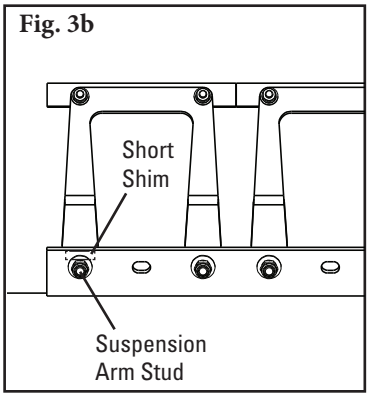
1. **Remove tension.** Turn adjusting bolt down until a 1/8" (3mm) gap is gained at the tightest point between the tip and the belt (Fig. 1).

2. **Loosen both suspension arm nuts on tip to be shimmed.** Push the tip against the head pulley to move the suspension arms away from the pole plate (Fig. 2).

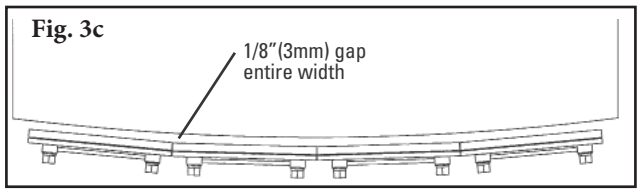


3. **Determine where to place the shim** (use plastic shims provided).
   a. To move tip in equally at both ends, place long shim above the suspension arm studs, centered on the two studs (Fig. 3a).
   b. To move tip in at one end only, place a short shim above the suspension arm stud on the side that must be pulled in (Fig. 3b).
   c. Shim tips until 1/8" (3mm) gap is obtained across the entire cleaner width (Fig. 3c).



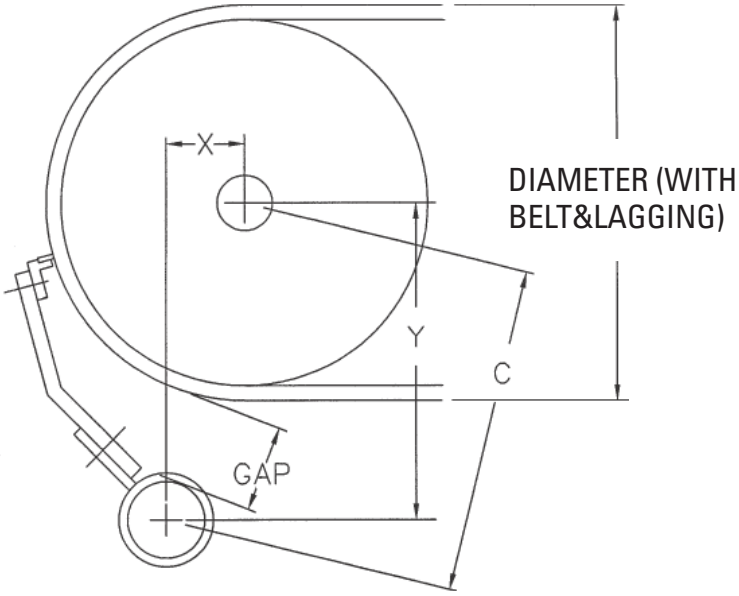


4. **Reset tip tension.**

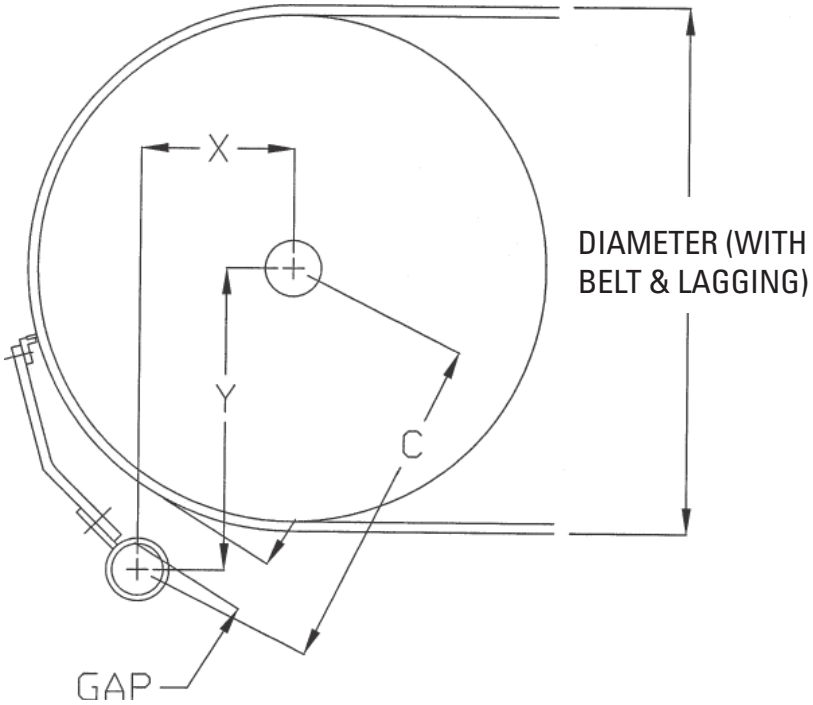


Cleaner Pole Location Charts

Pole Location Charts

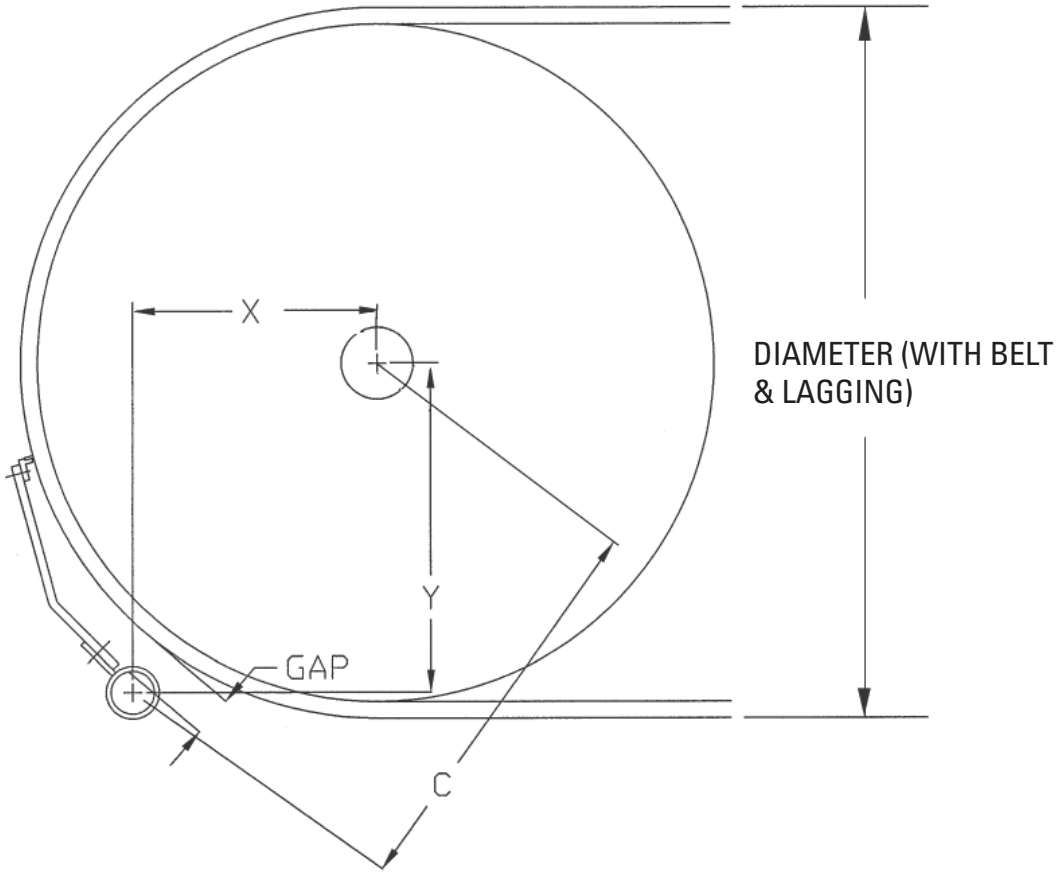


Extra Small (SS) V-Tipsfor Head Pulley Diameters 8″ to 15″				
Diameter (Over Belt)	X	Y	C	Gap
8″	1″	7 3/4″	7 3/4″	2 5/8″
9″	1 1/2″	7 7/8″	8″	2 3/8″
10″	2″	8″	8 1/4″	2 1/8″
11″	2 1/2″	8 1/8″	8 1/2″	2″
12″	3″	8 1/4″	8 3/4″	1 3/4″
13″	3 3/8″	8 3/8″	9″	1 5/8″
14″	3 7/8″	8 1/2″	9 3/8″	1 1/2″
15″	4 3/8″	8 5/8″	9 3/4″	1 3/8″



Small (S) V-Tips for Head Pulley Diameters 16″ to 27″				
Diameter (Over Belt)	X	Y	C	Gap
16″	3 7/8″	11″	11 5/8″	2 5/8″
17″	4 3/8″	11 1/8″	11 7/8″	2 1/2″
18″	4 3/4″	11 1/4″	12 1/4″	2 1/4″
19″	5 1/4″	11 3/8″	12 1/2″	2 1/8″
20″	5 3/4″	11 1/2″	12 7/8″	2″
21″	6 1/4″	11 5/8″	13 1/4″	1 7/8″
22″	6 3/4″	11 3/4″	13 1/2″	1 3/4″
23″	7 1/4″	11 7/8″	13 7/8″	1 5/8″
24″	7 3/4″	12″	14 1/4″	1 1/2″
25″	8 1/4″	12 1/8″	15 5/8″	1 1/2″
26″	8 5/8″	12 1/4″	15″	1 3/8″
27″	9 1/8″	12 3/8″	15 3/8″	1 1/4″

Pole Location Charts (cont.)



Medium (M) V-Tips for Head Pulley Diameters 28″ to 35″				
Diameter (Over Belt)	X	Y	C	Gap
28″	9″	14 1/4″	16 7/8″	2 1/4″
29″	9 1/2″	14 1/2″	17 1/4″	2 1/8″
30″	10″	14 5/8″	17 5/8″	2″
31″	10 1/2″	14 3/4″	18 1/8″	1 7/8″
32″	11″	14 7/8″	18 1/2″	1 7/8″
33″	11 1/2″	15″	18 7/8″	1 3/4″
34″	12″	15 1/8″	19 1/4″	1 5/8″
35″	12 3/8″	15 1/4″	19 5/8″	1 5/8″

Pre-Operation Checklist and Testing

Pre-Op Checklist

- Recheck that all fasteners are tightened properly.
- Add pole caps.
- Apply all supplied labels to the cleaner.
- Check the blade location on the belt.
- Be sure that all installation materials and tools have been removed from the belt and the conveyor area.

Test Run the Conveyor

- Run the conveyor for at least 15 minutes and inspect the cleaning performance.
- Check the tensioner spring for recommended length (proper tensioning).
- Make adjustments as necessary.

NOTE: Observing the cleaner when it is running and performing properly will help to detect problems or when adjustments are needed later.

Visit our website or contact your local distributor to learn more.
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