

# H-Type<sup>®</sup> Precleaner with V-Tips

## Installation, Operation and Maintenance Manual



# 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

# Pre-Installation Checks and Options (cont.)

## 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.

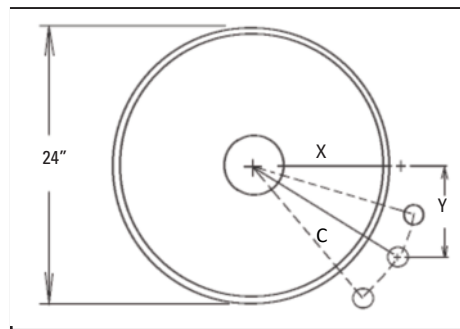
Conveyor situation:

Pulley Diameter: 24” (600mm)

X = 12-1/8” (308mm)

Y = 18-7/8” (479mm)

C = 22-3/8” (568mm)



- 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 dimension 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.  
 $X = ?$   
 $Y = 18-7/8 + 2 = 20-7/8$  (479+50=530mm)  
 $C = 22-3/8$  (568mm)
- 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 = 8” (200mm)

Y = 20-7/8” (530mm)

C = 22-3/8” (568mm)

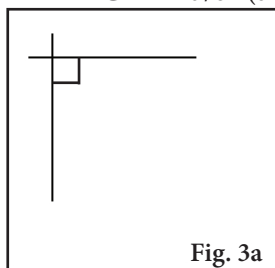


Fig. 3a

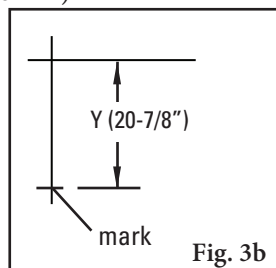


Fig. 3b

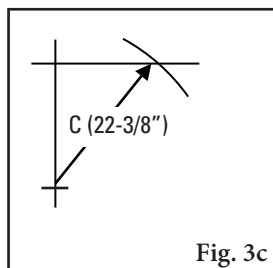


Fig. 3c

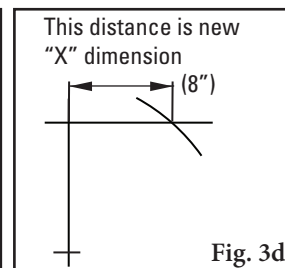
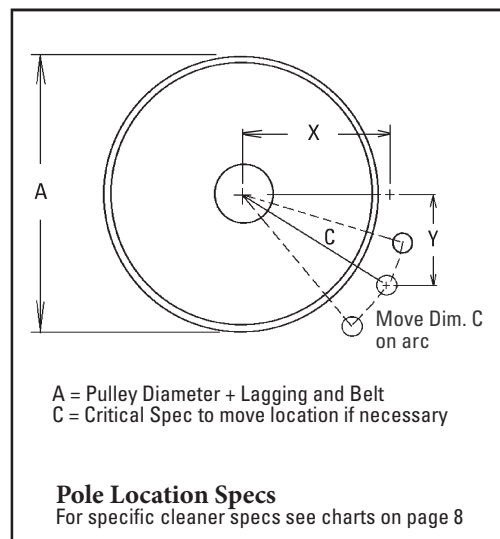
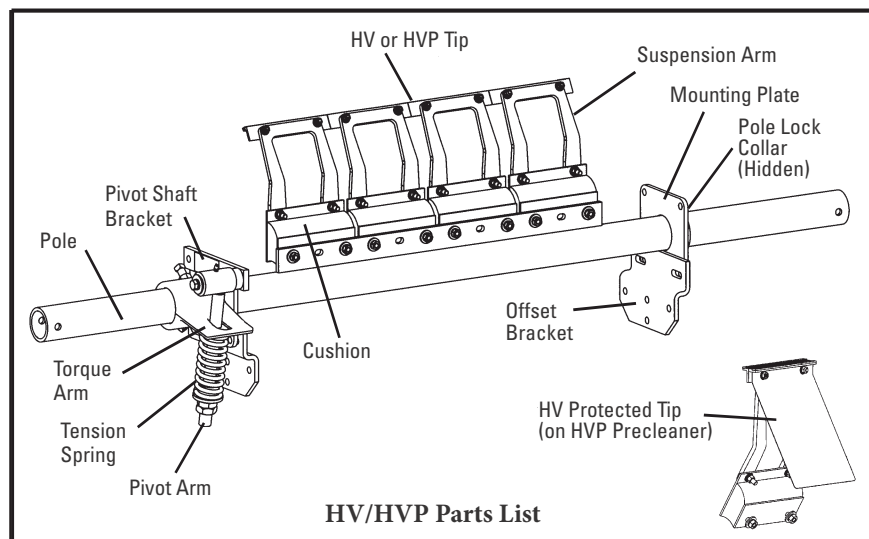


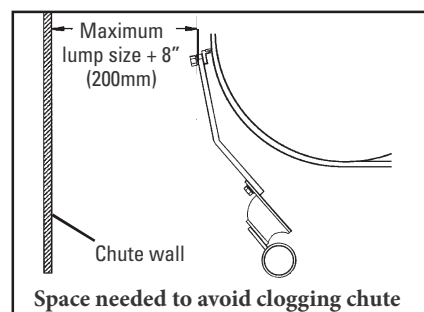
Fig. 3d

# Installation Instructions

## H-Type® Precleaner with V-Tips or Protected V-Tips



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



HV/HVP Suspension Arm Size	Pulley Diameter + Belt And Lagging
SS	10" - 19" (250-475mm)
S	20" - 31" (500-775mm)
M	32" - 39" (800-975mm)
L	40" - 47" (1000-1175mm)
LL	48" - 67" (1200-1675mm)

### Tools Needed:

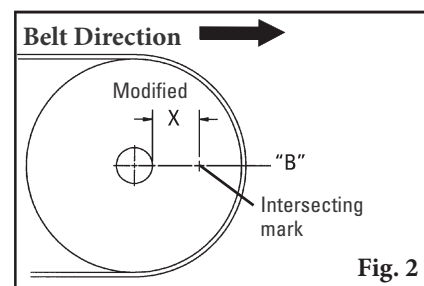
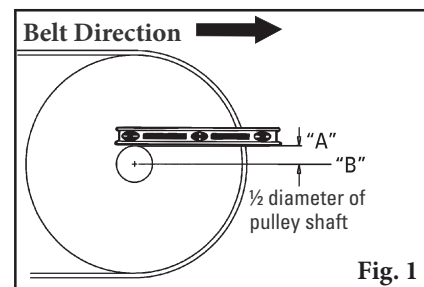
- Tape Measure
- Level
- Wrenches or Crescent Wrenches:
  - (1) 5/8" (16mm)
  - (2) 3/4" (19mm)
  - (1) 15/16" (24mm)
  - (2) 1 1/2" (38mm)

- Find X, Y & C measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on page 8. The pulley diameter measurement should include lagging and belt.

Pulley Diameter \_\_\_\_\_"; X=\_\_\_\_\_"; Y=\_\_\_\_\_"; C=\_\_\_\_\_"

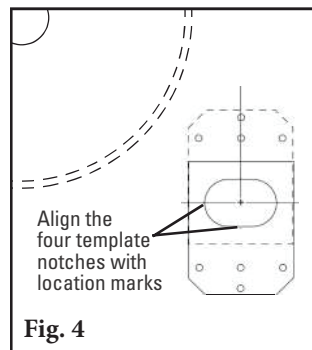
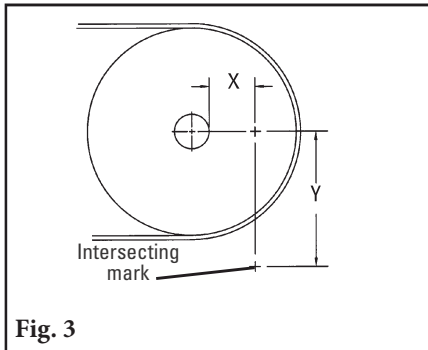
Using the correct X and Y coordinates will position the cleaner blades at 15° below the horizontal plane on the head pulley.

- Measure head pulley shaft.** Determine the diameter of the pulley shaft and divide by 2. \_\_\_\_\_"
- Locate horizontal line from center of pulley shaft.** 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).
- Mark X dimension.** Subtract the above dimension (Step 2) 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).



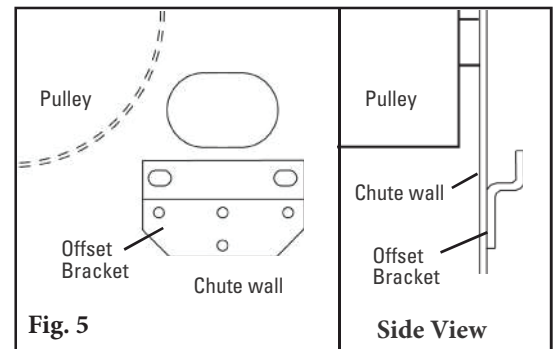
# Installation Instructions

## H-Type® Precleaner with V-Tips or Protected V-Tips (cont.)

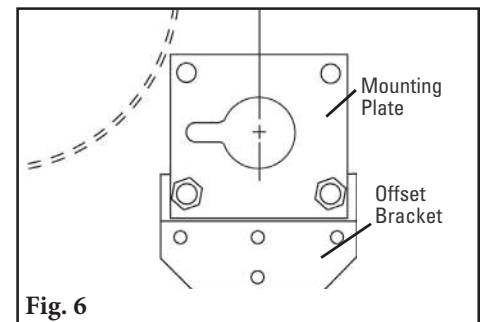


5. **Determine Y dimension.** From the X mark, draw a line vertically down to the selected Y dimension and make a mark (Fig. 3). This is the correct position for the center of the pole.
6. **Locate offset bracket position.** To locate the position of the offset bracket, position offset bracket template with the large hole notches aligned with the layout lines on the chute wall (Fig. 4). The template can be used with the bracket holes either below or above the Y mark.

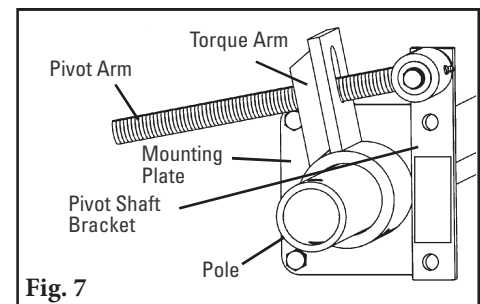
7. **Cut pole opening.** Using template provided, trace and cut the large opening and the mounting holes.
8. **Install offset brackets.** Locate the offset brackets in the correct position on the chute wall and bolt or weld in place (Fig. 5).
9. **Install the pole.** Slide the pole across the pulley and through the chute openings. Allow the tips to hang down.
10. **Install mounting plates.** On one side, slide mounting plate onto pole and with the key slot positioned horizontally and toward the pulley, bolt to the offset bracket, center in slots and tighten (Fig. 6). On opposite side repeat the process, but do not tighten.



11. **Position the pole.** Rotate the pole upward until the tips touch the belt. Center the tips across the belt. While applying light pressure on the center tip, shift the loosened mounting plate until tips are contacting the belt evenly across the full width. Lock cleaner into this position by tightening mounting plate bolts.
12. **Center the cleaner on the belt and lock in place.** Center the tips on the belt and install a pole lock collar on one end of the pole. Slide the collar snugly up to the mounting plate and tighten.



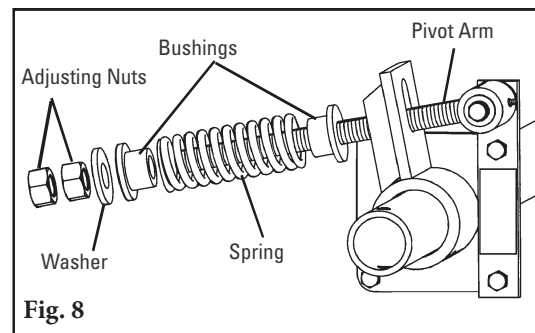
13. **Install the QMT spring tensioner.** Remove the adjusting nuts, bushings and spring from the pivot rod. Insert the pivot arm through the slot in the torque arm. Slide the torque arm onto the pole end (be sure the rotation of the arm is correct to tension the blade) and rotate it until the pivot shaft bracket lines up with the desired bolt holes (Fig. 7). Remove bolts, nuts and washers from mounting plate and reinsert through the pivot shaft bracket and mounting plate.



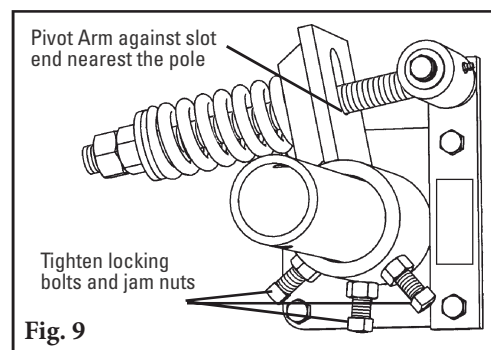
# Installation Instructions

## H-Type® Precleaner with V-Tips or Protected V-Tips (cont.)

14. **Reassemble the spring assembly.** Slide the spring, washer and bushings onto the pivot arm and turn the two adjusting nuts so about 1/4" of the pivot arm is exposed above the nuts (Fig. 8).






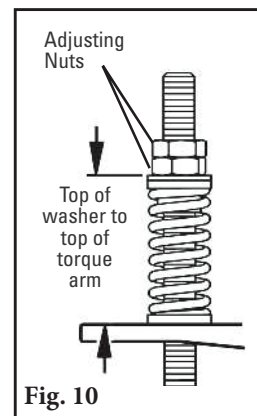
15. **Tension the blades to the belt.** Rotate the blades until they contact the belt. While holding the spring bushing flat on the torque arm, rotate the torque arm until the pivot arm is against the end of the slot nearest the pole. Tighten the locking bolts and jam nuts on the torque arm (Fig. 9). **NOTE:** The torque arm should be up against the mounting plate.



16. **Set the correct blade tension.** Refer to the chart on the pivot shaft bracket (also shown below) for the spring length required for the belt width. Lightly pull the pivot arm toward the end of the torque arm slot nearest the pole and turn the adjusting nuts until the required spring length is achieved (Fig. 10). Lock the top adjusting nut.

HV/HVP Spring Length Chart (for optimal blade tensioning)						
Belt Width	Tips	Spring Length				
		SS	S	M	L	LL
18"	2	5 1/4"	4 7/8"	4 3/4"	4 1/2"	N/A
24"	3	4 1/2"	4 1/8"	5 3/4"	5 3/4"	N/A
30"	3	4 1/2"	4 1/8"	5 3/4"	5 3/4"	N/A
36"	4	5 3/4"	5 5/8"	5 1/2"	5 3/8"	N/A
42"	5	5 5/8"	5 3/8"	5 1/4"	5 1/8"	4 3/4"
48"	5	5 5/8"	5 3/8"	5 1/4"	5 1/8"	4 3/4"
54"	6	N/A	5 1/8"	5	4 7/8"	6"
60"	7	N/A	4 7/8"	6 1/8"	6"	5 7/8"
72"	8	N/A	6"	6"	5 7/8"	5 3/4"

 Purple Spring  Silver Spring  White Spring



17. **Verify your "C" dimension** to insure the pole is in the correct position.

**Test run the cleaner.** Run the conveyor for at least 15 minutes and inspect the cleaning performance. Check the spring length for proper tensioning. Make adjustments as necessary.

# Installation Instructions

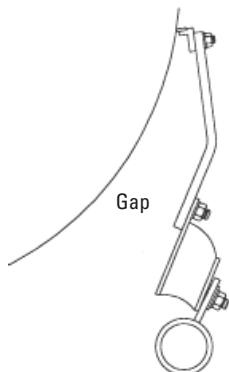
## Pole Location Charts

**Extra Small (SS) V-Tips  
for Head Pulley Diameters  
10" to 19"**

Diameter (Over Belt)	X	Y	C	Gap*
10"	1 1/8"	11 1/2"	11 5/8"	2 1/8"
11"	1 5/8"	11 5/8"	11 3/4"	2"
12"	2 1/8"	11 3/4"	12"	1 3/4"
13"	2 5/8"	11 7/8"	12 1/4"	1 5/8"
14"	3 1/8"	12"	12 1/2"	1 1/2"
15"	3 5/8"	12 1/8"	12 3/4"	1 3/8"
16"	4 1/8"	12 1/4"	13"	1 1/4"
17"	4 1/2"	12 3/8"	13 1/4"	1 1/8"
18"	5"	12 1/2"	13 1/2"	1 1/8"
19"	5 1/2"	12 3/4"	13 7/8"	1"
20"	6"	12 7/8"	14 1/8"	7/8"
21"	6 1/2"	13"	14 1/2"	7/8"
22"	7"	13 1/8"	14 7/8"	3/4"
23"	7 1/2"	13 1/4"	15 1/8"	3/4"

□ Recommended range for tip size  
 ■ Optional extended range

\* See figure below for location of gap



**Small (S) V-Tips  
for Head Pulley Diameters  
20" to 31"**

Diameter (Over Belt)	X	Y	C	Gap*
14"	2 1/8"	14 1/4"	14 3/8"	3"
15"	2 1/2"	14 3/8"	14 5/8"	2 7/8"
16"	3"	14 1/2"	14 7/8"	2 5/8"
17"	3 1/2"	14 5/8"	15"	2 1/2"
18"	4"	14 3/4"	15 1/4"	2 1/4"
19"	4 1/2"	14 7/8"	15 1/2"	2 1/8"
20"	5"	15"	15 7/8"	2"
21"	5 1/2"	15 1/8"	16 1/8"	1 7/8"
22"	5 7/8"	15 1/4"	16 3/8"	1 3/4"
23"	6 3/8"	15 3/8"	16 3/4"	1 5/8"
24"	6 7/8"	15 1/2"	17"	1 1/2"
25"	7 3/8"	15 5/8"	17 3/8"	1 1/2"
26"	7 7/8"	15 3/4"	17 5/8"	1 3/8"
27"	8 3/8"	15 7/8"	18"	1 1/4"
28"	8 7/8"	16 1/8"	18 3/8"	1 1/4"
29"	9 3/8"	16 1/4"	18 5/8"	1 1/8"
30"	9 3/4"	16 3/8"	19"	1"
31"	10 1/4"	16 1/2"	19 3/8"	1"
32"	10 3/4"	16 5/8"	19 3/4"	7/8"
33"	11 1/4"	16 3/4"	20 1/8"	7/8"
34"	11 3/4"	16 7/8"	20 1/2"	3/4"
35"	12 1/4"	17"	20 7/8"	3/4"
36"	12 3/4"	17 1/8"	21 1/4"	3/4"

**Medium (M) V-Tips  
for Head Pulley Diameters  
32" to 39"**

Diameter (Over Belt)	X	Y	C	Gap*
26"	7 1/4"	17 5/8"	19"	2 3/8"
27"	7 3/4"	17 3/4"	19 3/8"	2 3/8"
28"	8 1/4"	17 7/8"	19 5/8"	2 1/4"
29"	8 3/4"	18"	20"	2 1/8"
30"	9 1/4"	18 1/8"	20 3/8"	2"
31"	9 3/4"	18 1/4"	20 5/8"	1 7/8"
32"	10 1/8"	18 3/8"	21"	1 7/8"
33"	10 5/8"	18 1/2"	21 3/8"	1 3/4"
34"	11 1/8"	18 5/8"	21 3/4"	1 5/8"
35"	11 5/8"	18 3/4"	22 1/8"	1 5/8"
36"	12 1/8"	18 7/8"	22 3/8"	1 1/2"
37"	12 5/8"	19"	22 3/4"	1 3/8"
38"	13 1/8"	19 1/8"	23 1/8"	1 3/8"
39"	13 1/2"	19 1/4"	23 5/8"	1 1/4"
40"	14"	19 3/8"	24"	1 1/4"
41"	14 1/2"	19 1/2"	24 3/8"	1 1/8"
42"	15"	19 5/8"	24 3/4"	1 1/8"
43"	15 1/2"	19 3/4"	25 1/8"	1 1/8"
44"	16"	19 7/8"	25 1/2"	1"
45"	16 1/2"	20"	26"	1"

**Large (L) V-Tips  
for Head Pulley Diameters  
40" to 47"**

Diameter (Over Belt)	X	Y	C	Gap*
34"	10 1/4"	19 1/2"	22"	1 3/4"
35"	10 3/4"	19 5/8"	22 3/8"	1 5/8"
36"	11 1/4"	19 3/4"	22 3/4"	1 5/8"
37"	11 5/8"	19 7/8"	23 1/8"	1 1/2"
38"	12 1/8"	20"	23 1/2"	1 3/8"
39"	12 5/8"	20 1/8"	23 7/8"	1 3/8"
40"	13 1/8"	20 3/8"	24 1/4"	1 1/4"
41"	13 5/8"	20 1/2"	24 1/2"	1 1/8"
42"	14 1/8"	20 5/8"	25"	1 1/8"
43"	14 5/8"	20 3/4"	25 3/8"	1"
44"	15 1/8"	20 7/8"	25 3/4"	1"
45"	15 1/2"	21"	26 1/8"	7/8"
46"	16"	21 1/8"	26 1/2"	7/8"
47"	16 1/2"	21 1/4"	26 7/8"	3/4"
48"	17"	21 3/8"	27 1/4"	3/4"

**Extra Large (LL) V-Tips  
for Head Pulley Diameters  
48" to 67"**

Diameter (Over Belt)	X	Y	Z	Gap*
48"	16 5/8"	25 3/4"	30 5/8"	3"
49"	17 1/8"	25 7/8"	31"	2 7/8"
50"	17 5/8"	26"	31 3/8"	2 7/8"
51"	18 1/8"	26 1/8"	31 3/4"	2 3/4"
52"	18 5/8"	26 1/4"	32 1/8"	2 5/8"
53"	19"	26 3/8"	32 1/2"	2 5/8"
54"	19 1/2"	26 1/2"	32 7/8"	2 1/2"
55"	20"	26 5/8"	33 1/4"	2 1/2"
56"	20 1/2"	26 3/4"	33 3/4"	2 3/8"
57"	21"	26 7/8"	34 1/8"	2 3/8"
58"	21 1/2"	27"	34 1/2"	2 1/4"
59"	22"	27 1/8"	34 7/8"	2 1/4"
60"	22 1/2"	27 1/4"	35 1/4"	2 1/8"
61"	22 7/8"	27 3/8"	35 3/4"	2 1/8"
62"	23 3/8"	27 1/2"	36 1/8"	2"
63"	23 7/8"	27 5/8"	36 1/2"	2"
64"	24 3/8"	27 3/4"	37"	1 7/8"
65"	24 7/8"	27 7/8"	37 3/8"	1 7/8"
66"	25 3/8"	28"	37 3/4"	1 3/4"
67"	25 7/8"	28 1/8"	38 1/4"	1 3/4"

# Installation Instructions

## Shimming Instructions

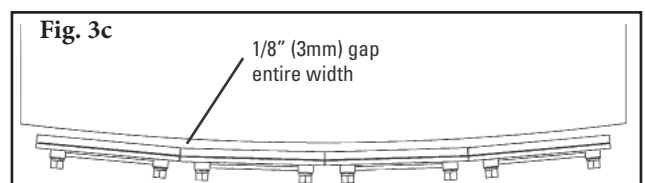
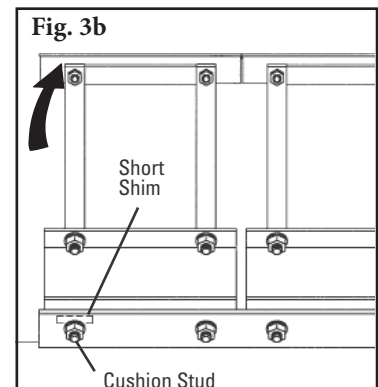
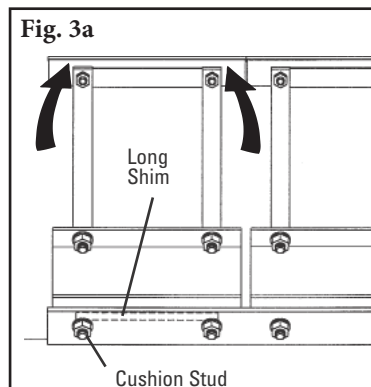
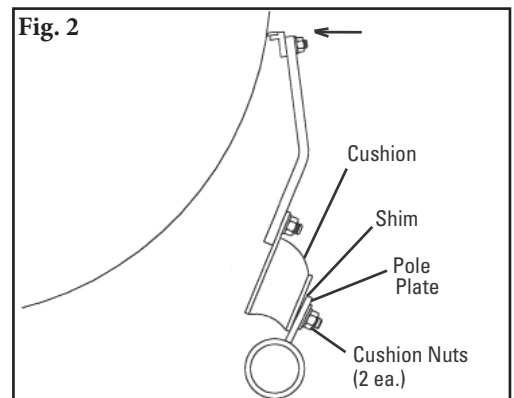
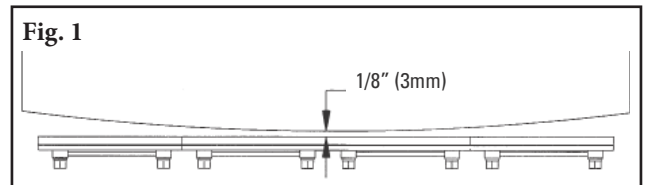
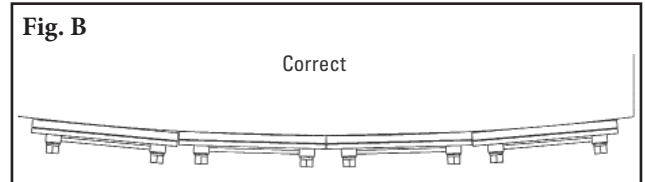
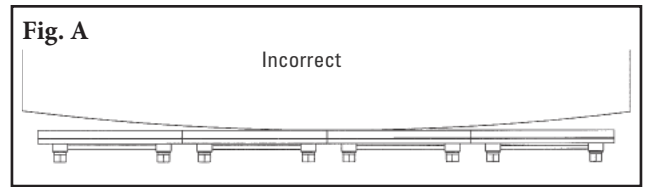
### Tools Needed:

- (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 cushion 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 cushion nuts on tip to be shimmed.** Push the tip against the head pulley to move the cushion 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 cushion studs, centered on the cushion (Fig. 3a).
  - b. To move tip in at one end only, place a short shim above the cushion 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.**





# 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.**

No.9, New Door No.51, Anna Salai, Nagalkeni, Pammal, Chrompet, Chennai- 600044, India  
Ph: 044-48566761/62, E-mail: [info.india@flexco.com](mailto:info.india@flexco.com), Visit us at [www.flexco.com](http://www.flexco.com)