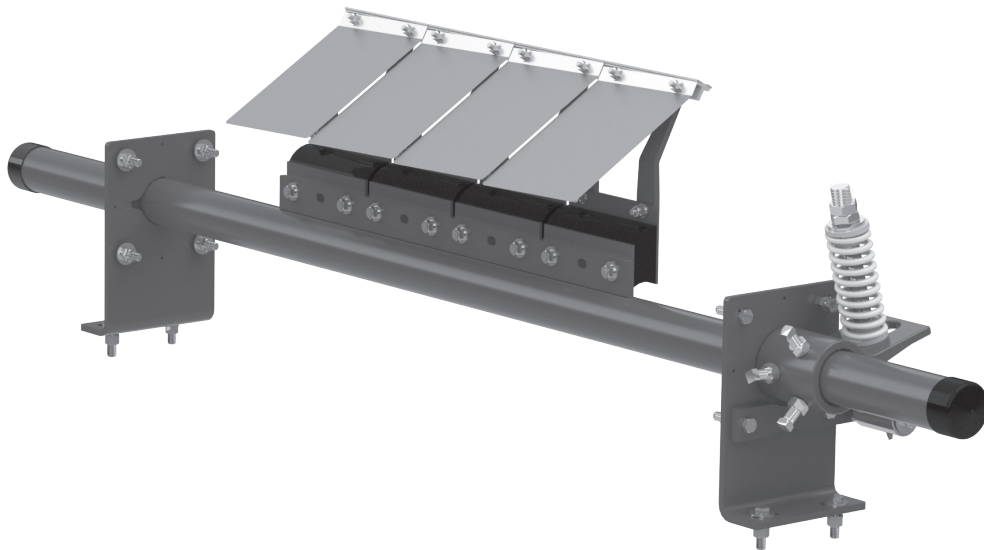


H-Type[®] Precleaner with V-Tips

Install Instructions



H-Type® Precleaner with V-Tips

Serial Number: _____

Purchase Date: _____

Purchased From: _____

Installation Date: _____

Serial number information can be found on the Serial Number Label included in the Information Packet found in the cleaner carton.

This information will be helpful for any future inquiries or questions about belt cleaner replacement parts, specifications or troubleshooting.

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Section 1 – Safety Considerations and Precautions

Before installing and operating the H-Type Precleaner with V-Tips, it is important to review and understand the following safety information.

There are set-up, maintenance and operational activities involving both **stationary** and **operating** conveyors. Each case has a safety protocol.

1.1 Stationary Conveyors

The following activities are performed on stationary conveyors:

- Installation
- Blade replacement
- Repairs
- Tension adjustments
- Cleaning

DANGER

It is imperative that OSHA/MSHA Lockout/Tagout (LOTO) regulations, 29 CFR 1910.147, be followed before undertaking the preceding activities. Failure to use LOTO exposes workers to uncontrolled behavior of the belt cleaner caused by movement of the conveyor belt. Severe injury or death can result.

Before working:

- Lockout/Tagout the conveyor power source
- Disengage any takeups
- Clear the conveyor belt or clamp securely in place

WARNING

Use Personal Protective Equipment (PPE):

- Safety eyewear
- Hardhats
- Safety footwear

Close quarters, springs and heavy components create a worksite that compromises a worker's eyes, feet and skull.

PPE must be worn to control the foreseeable hazards associated with conveyor belt cleaners. Serious injuries can be avoided.

1.2 Operating Conveyors

There are two routine tasks that must be performed while the conveyor is running:

- Inspection of the cleaning performance
- Dynamic troubleshooting

DANGER

Every belt cleaner is an in-running nip hazard. Never touch or prod an operating cleaner. Cleaner hazards cause instantaneous amputation and entrapment.

WARNING

Belt cleaners can become projectile hazards. Stay as far from the cleaner as practical and use safety eyewear and headgear. Missiles can inflict serious injury.

WARNING

Never adjust anything on an operating cleaner. Unforseeable belt projections and tears can catch on cleaners and cause violent movements of the cleaner structure. Flailing hardware can cause serious injury or death.

Section 2 - Pre-Installation Checks and Options (cont.)

2.1 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.

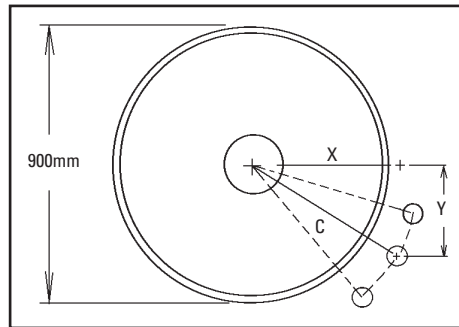
Conveyor situation:

Pulley Diameter: 900mm

X = 301mm

Y = 478mm

C = 565mm



- 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 50mm to clear the support structure).
- 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 50mm, so we add 50mm to the given “Y” dimension.

X = ?”

Y = 478 + 50 + 528mm

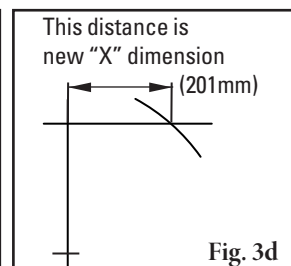
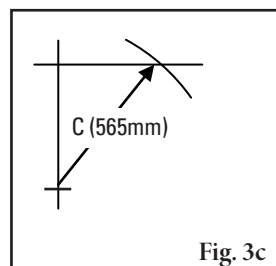
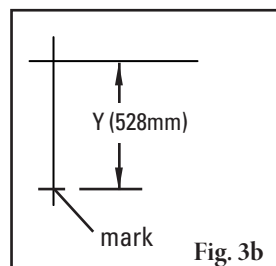
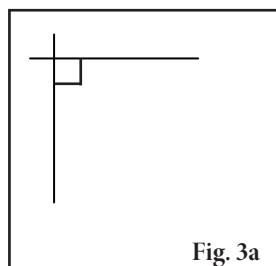
C = 565mm

- 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 = 201mm

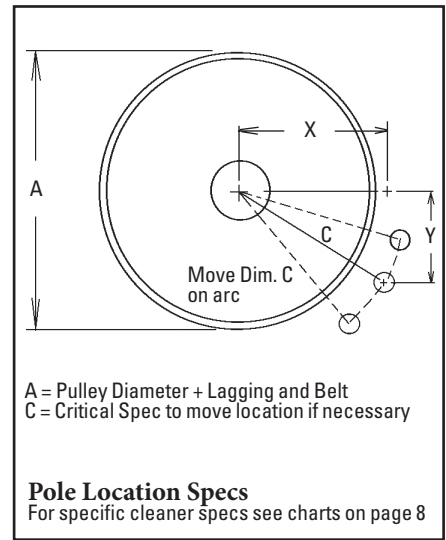
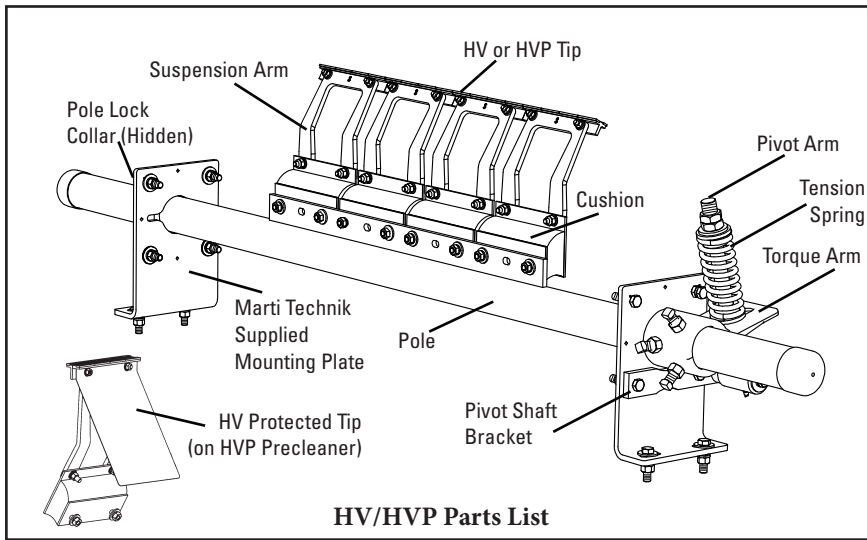
Y = 528mm

C = 565mm

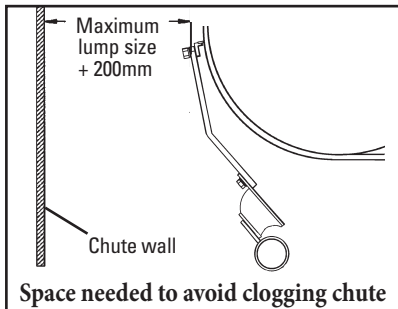


Section 3 – Installation Instructions

3.1 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.

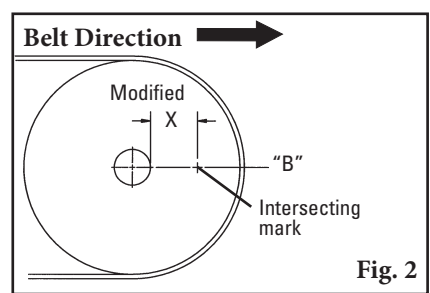
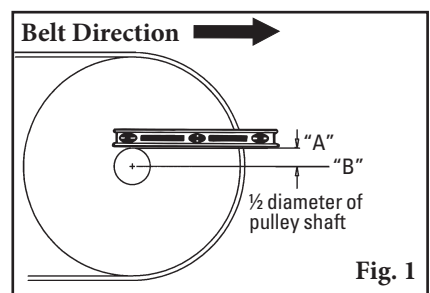


HV/HVP Suspension Arm Size	Pulley Diameter + Belt And Lagging
SS	250-475mm (10" - 19")
S	500-775mm (20" - 31")
M	800-975mm (32" - 39")

Tools Needed:

- Tape Measure
- Level
- Wrenches or Crescent Wrenches:
 - (1) 16mm (5/8")
 - (2) 19mm (3/4")
 - (1) 24mm (15/16")
 - (2) 38mm (1½")

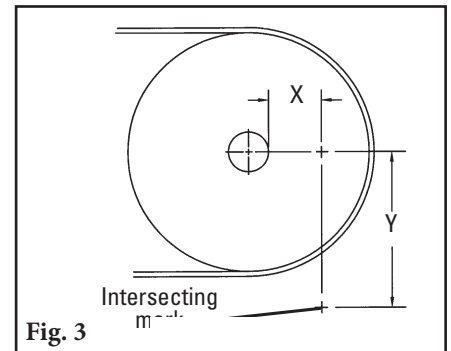
- 1. Find X, Y & C measurements.** Find the X and Y measurement specifications for the pulley diameter. See charts on page 11. The pulley diameter measurement should include lagging and belt.
Pulley Diameter _____"; X= _____"; Y= _____" C= _____"
Using the correct X and Y coordinates will position the cleaner blades at 15° below the horizontal plane on the head pulley.
- 2. Measure head pulley shaft.** Determine the diameter of the pulley shaft and divide by 2. _____"
- 3. 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).
- 4. 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).



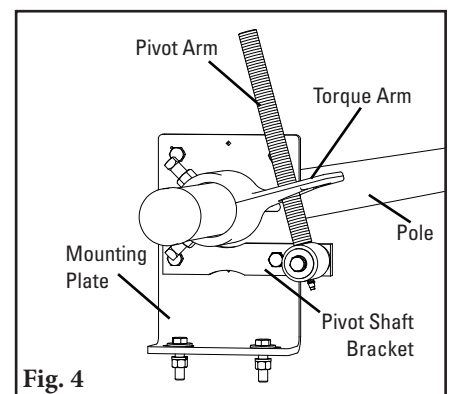
Section 3 – Installation Instructions

3.1 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. **Cut pole opening.** Using template provided, trace and cut the large opening and the mounting holes.
7. **Install the pole.** Slide the pole across the pulley and through the chute openings. Allow the tips to hang down.
8. **Install Marti Technik 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. On opposite side repeat the process, but do not tighten (Fig. 4).
9. **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.
10. **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.



11. **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. 4). Remove bolts, nuts and washers from mounting plate and reinsert through the pivot shaft bracket and mounting plate.



Section 3 – Installation Instructions

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

12. Reassemble the spring assembly. Slide the spring, washer and bushings onto the pivot arm and turn the two adjusting nuts so about 6mm (1/4") of the pivot arm is exposed above the nuts (Fig. 5).

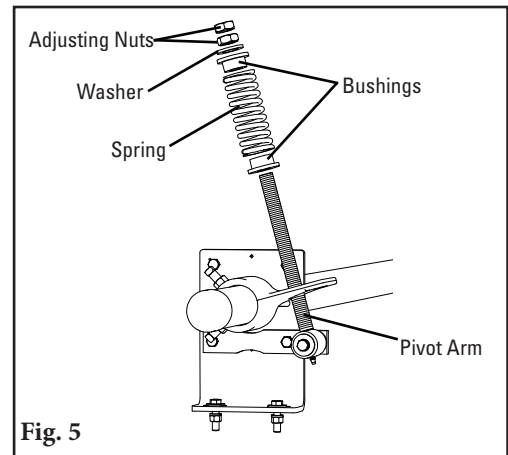


Fig. 5

13. 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. 6). **NOTE:** The torque arm should be up against the mounting plate.

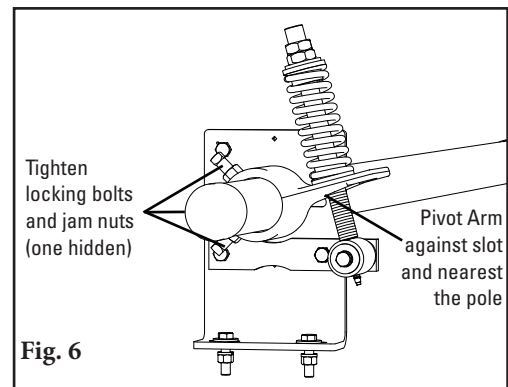


Fig. 6

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. 7). Lock the top adjusting nut.

HV/HVP Spring Length Chart
(for optimal blade tensioning)

Belt Width		Tips	Spring Length		
mm	in.		SS	S	M
600	24"	3	147	143	140
750	30"	3	147	143	140
900	36"	4	141	135	131
1050	42"	5	134	127	121
1200	48"	5	134	127	121
1350*	54"	6	147	143	140
1500*	60"	7	144	139	135

*Dual QMT-W

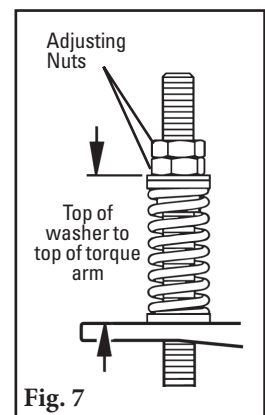


Fig. 7

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.

Section 3 – Installation Instructions

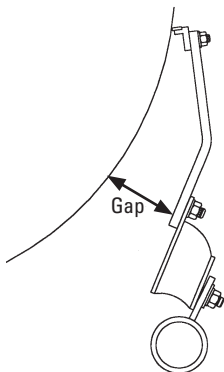
3.2 Pole Location Charts

**Extra Small (SS) V-Tips
for Head Pulley Diameters
Up to 499mm**

Diameter (Over Belt)	X	Y	C	Gap*
250	28	292	294	56
275	40	295	298	51
300	52	299	303	46
325	64	302	309	43
350	76	305	315	39
375	88	308	321	36
400	100	312	327	33
425	113	315	334	30
450	125	318	342	28
475	137	321	349	25
500	149	325	357	23
525	161	328	365	22
550	173	331	373	20
575	185	334	382	18

Recommended range for tip size
 Optional extended range

* See figure below for location of gap



**Small (S) V-Tips
for Head Pulley Diameters
500 to 799mm**

Diameter (Over Belt)	X	Y	C	Gap*
350	50	361	365	78
375	62	365	370	73
400	74	368	375	68
425	86	371	381	64
450	98	374	387	60
475	110	377	393	56
500	122	381	400	52
525	134	384	407	49
550	146	387	414	46
575	158	390	421	43
600	171	394	429	40
625	183	397	437	38
650	195	400	445	36
675	207	403	453	33
700	219	407	462	31
725	231	410	470	29
750	243	413	479	27
775	255	416	488	26
800	267	420	497	24
825	279	423	507	23
850	291	426	516	21
875	303	429	526	20
900	315	432	535	18

**Medium (M) V-Tips
for Head Pulley Diameters
800 to 999mm**

Diameter (Over Belt)	X	Y	C	Gap*
650	180	445	480	63
675	192	449	488	60
700	204	452	496	57
725	216	455	504	54
750	228	458	512	54
775	240	462	520	50
800	252	465	529	47
825	264	468	538	45
850	277	471	546	43
875	289	475	555	41
900	301	478	565	39
925	313	481	574	37
950	325	484	583	36
975	337	487	593	34
1000	349	491	602	32
1025	361	494	612	31
1050	373	497	622	29
1075	385	500	632	28
1100	397	504	641	27
1125	409	507	652	26

Section 3 – Installation Instructions

3.3 Shimming Instructions

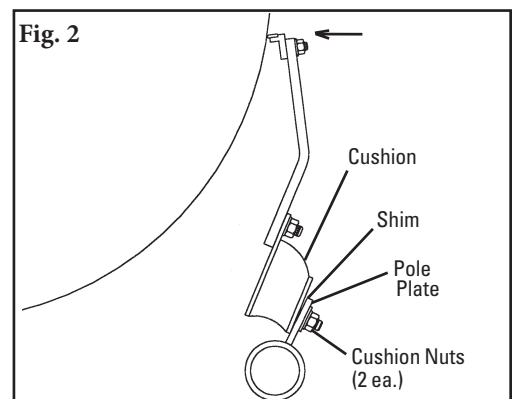
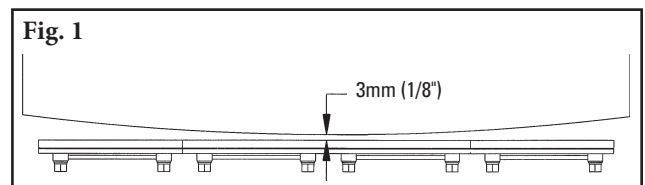
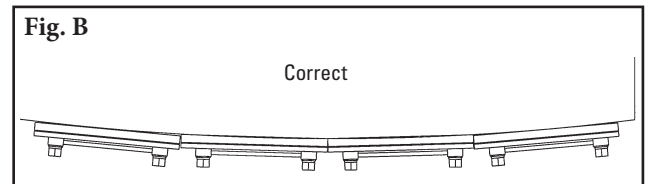
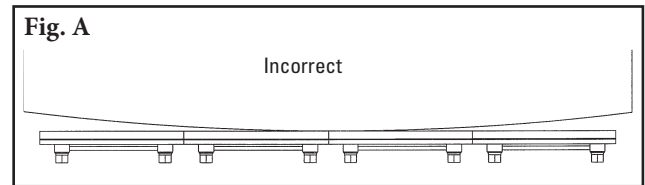
Tools Needed:

- (1) 17mm (11/16") wrench or crescent wrenches
- (1) 38mm (1½") wrenches or crescent wrenches
- Shim Kit (provided)

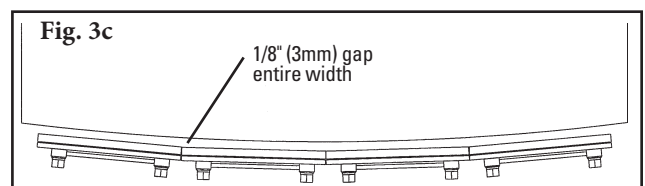
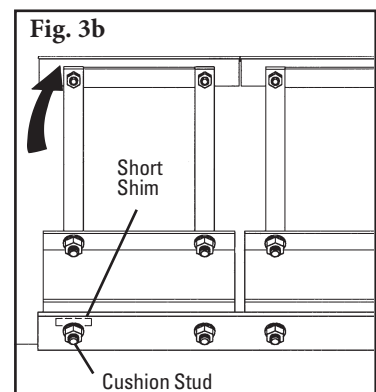
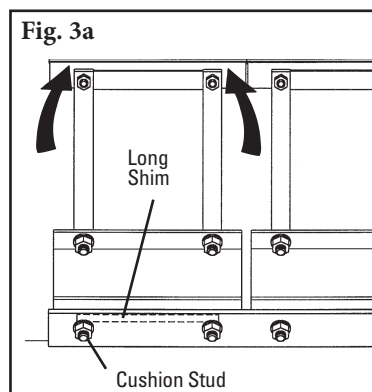
NOTE: If all cleaner tips do not make even contact across the width of the belt, the tips will require shimming (Fig. A and Fig. B).

All shimming is done between the cushion and the pole plate (Fig. 2).

1. **Remove tension.** Turn adjusting bolt down until a 3mm (1/8") 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 3mm (1/8") gap is obtained across the entire cleaner width (Fig. 3c).



Section 4 – Pre-Operation Checklist and Testing

4.1 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

4.2 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.

Section 5 – Maintenance

Flexco belt cleaners are designed to operate with minimum maintenance. However, to maintain superior performance some service is required. When the cleaner is installed a regular maintenance program should be set up. This program will ensure that the cleaner operates at optimal efficiency and problems can be identified and fixed before the cleaner stops working.

All safety procedures for inspection of equipment (stationary or operating) must be observed. The H-Type Precleaner operates at the discharge end of the conveyor and is in direct contact with the moving belt. Only visual observations can be made while the belt is running. Service tasks can be done only with the conveyor stopped and by observing the correct lockout/tagout procedures.

5.1 New Installation Inspection

After the new cleaner has run for a few days a visual inspection should be made to ensure the cleaner is performing properly. Make adjustments as needed.

5.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine:

- If the spring length is the correct length for optimal tensioning.
- If the belt looks clean or if there are areas that are dirty.
- If the blade is worn out and needs to be replaced.
- If there is damage to the blade or other cleaner components.
- If fugitive material is built up on the cleaner or in the transfer area.
- If there is cover damage to the belt.
- If there is vibration or bouncing of the cleaner on the belt.
- If a snub pulley is used, a check should be made for material buildup on the pulley.

If any of the above conditions exist, a determination should be made on when the conveyor can be stopped for cleaner maintenance.

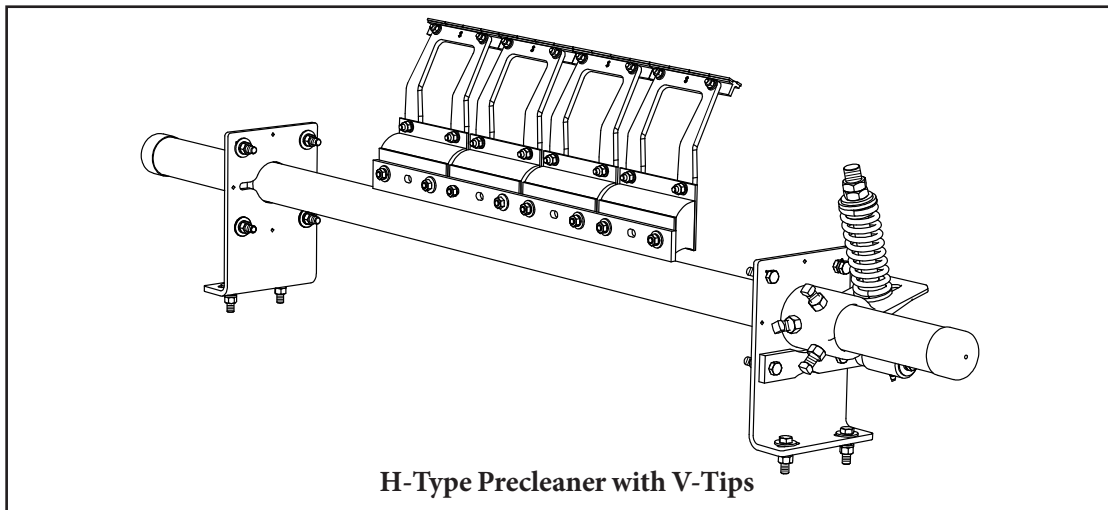
5.3 Routine Physical Inspection (every 6-8 weeks)

When the conveyor is not in operation and properly locked and tagged out a physical inspection of the cleaner to perform the following tasks:

- Clean material buildup off of the cleaner blade and pole.
- Closely inspect the blade for wear and any damage. Replace if needed.
- Check both blade pins for proper installation and condition. Replace if needed.
- Ensure full blade to belt contact.
- Inspect the cleaner pole for damage.
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Replace any worn or damaged components.
- Check the tension of the cleaner blade to the belt. Adjust the tension if necessary using the chart on the cleaner or the one on Page 10.
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly.

Section 5 – Maintenance

5.4 Blade Replacement Instructions

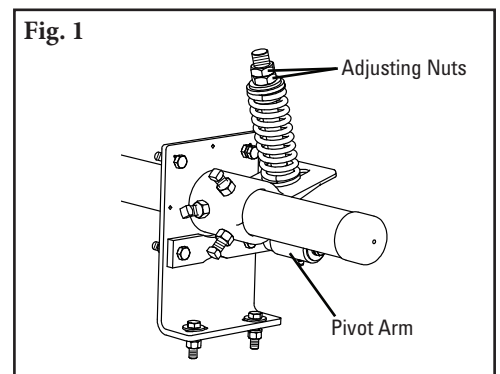


Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

Tools Needed:

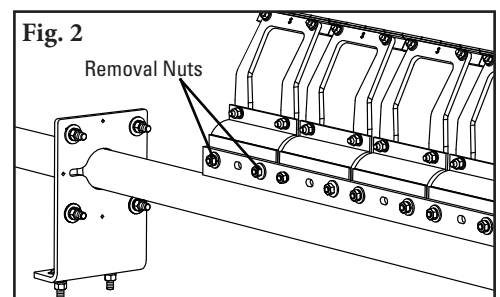
- Tape measure
- (2) 38mm (1½") wrenches or crescent wrenches
- (1) 17mm (11/16") wrench or crescent wrench
- Wire brush (for cleaning pole)
- Small putty knife (for cleaning pole)

1. **Remove the tension.** Loosen the adjusting nuts on both sides and then turn them out until they are flush with the ends of the pivot arms (Fig. 1). This releases the tension of the blade on the belt.



2. **Remove the worn tips.** Remove the nuts on each tip and remove the tips from the suspension arm (Fig. 2). Clean all fugitive material from the pole.

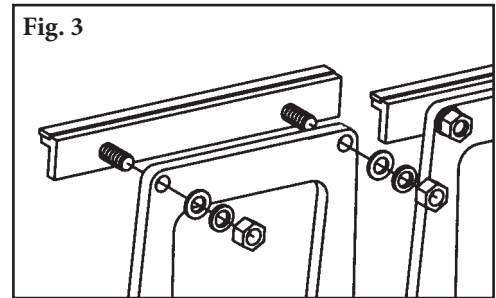
NOTE: If tips are hard to remove use a screwdriver or hammer to loosen it and then remove.



Section 5 – Maintenance

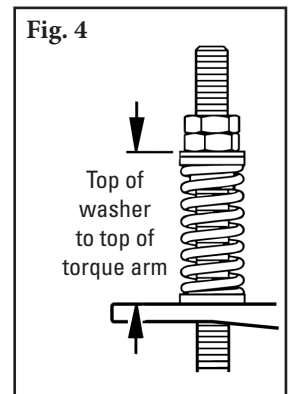
5.4 Blade Replacement Instructions (cont.)

3. **Install the new tips.** Locate each tip onto each suspension arm, then install the hardware to fasten the tip to the cushion (Fig. 3).



4. **Reset the correct blade tension.** Refer to the chart 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. 4). Tighten jam nut.

NOTE: The chart is also on the cleaner's pivot shaft for future reference for retensioning maintenance.



HV/HVP Spring Length Chart

(for optimal blade tensioning)

Belt Width			Spring Length		
mm	in.	Tips	SS	S	M
			mm	mm	mm
600	24"	3	147	143	140
750	30"	3	147	143	140
900	36"	4	141	135	131
1050	42"	5	134	127	121
1200	48"	5	134	127	121
1350*	54"	6	147	143	140
1500*	60"	7	144	139	135

*Dual QMT-W

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.

Section 5 – Maintenance

5.5 Maintenance Log

Conveyor Name/No. _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____

Date: _____ Work done by: _____ Service Quote #: _____

Activity: _____



Section 5 – Maintenance

5.6 Cleaner Maintenance Checklist

Site: _____ Inspected by: _____ Date: _____

Belt Cleaner: _____ Serial Number: _____

Beltline Information:

Beltline Number: _____ Belt Condition: _____

Belt Width: 600mm (24") 750mm (30") 900mm (36") 1050mm (42") 1200mm (48") 1350mm (54") 1500mm (60")

Head Pulley Diameter (Belt & Lagging): _____ Belt Speed: _____ fpm Belt Thickness: _____

Belt Splice: _____ Condition of Splice: _____ Number of Splices: _____ Skived Unskived

Material conveyed: _____

Days per week run: _____ Hours per day run: _____

Blade Life:

Date blade installed: _____ Date blade inspected: _____ Estimated blade life: _____

Is blade making complete contact with belt? Yes No

Blade wear: Left _____ Middle _____ Right _____

Blade condition: Good Grooved Smiled Not contacting belt Damaged

Measurement of spring: Required _____ Currently _____

Was Cleaner Adjusted: Yes No

Pole Condition: Good Bent Worn

Lagging: Side Lag Ceramic Rubber Other None

Condition of lagging: Good Bad Other _____

Cleaner's Overall Performance: (Rate the following 1 - 5, 1= very poor - 5 = very good)

Appearance: Comments: _____

Location: Comments: _____

Maintenance: Comments: _____

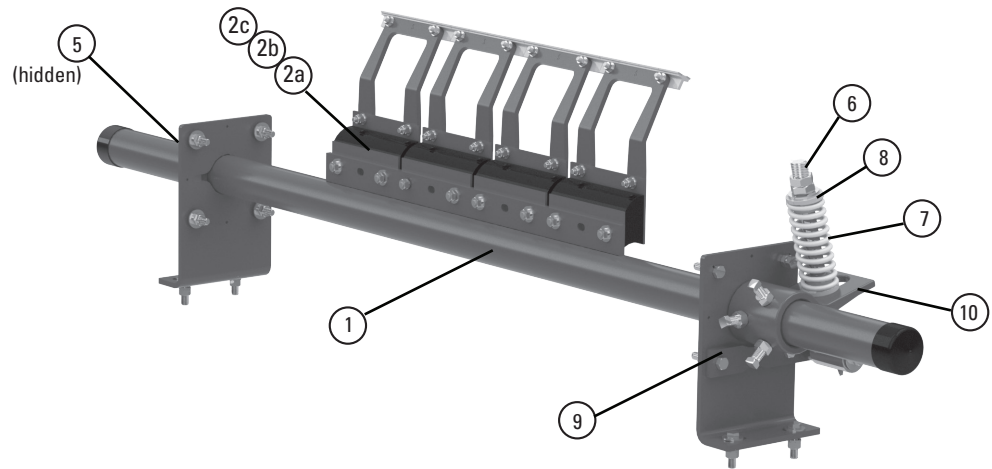
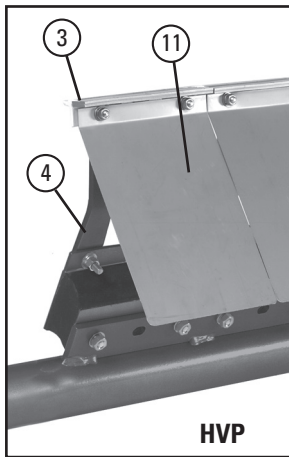
Performance: Comments: _____

Other comments: _____

Section 6 – Troubleshooting

Problem	Possible Cause	Possible Solutions
Poor cleaning performance	Cleaner under-tensioned	Adjust to correct tension – see spring length chart
	Cleaner over-tensioned	Adjust to correct tension – see spring length chart
	Cleaner installed in wrong location	Verify "C" dimension, relocate to correct dimension
	Cleaner blade worn or damaged	Replace cleaner blade
Rapid Blade Wear	Tension on cleaner too high/low	Adjust to correct tension – see spring length chart
	Cleaner not located correctly	Check cleaner location for correct dimensions
	Blade attack angle incorrect	Check cleaner location for correct dimensions
	Material too abrasive for blade	Option: switch to alternate cleaner with metal blades
	Mechanical splice damaging blade	Repair, skive or replace splice
Center wear on blade (smile effect)	Blade wider than material path	Replace blade with width to match material path
	Tension on cleaner too high/low	Adjust to correct tension – see spring length chart
Unusual wear or damage to blade	Mechanical splice damaging blade	Repair, skive or replace splice
	Belt damaged or ripped	Repair or replace belt
	Cleaner not correctly located	Verify "C" dimension, relocate to correct dimension
	Damage to pulley or pulley lagging	Repair or replace pulley
Vibration or noise	Cleaner not located correctly	Verify "C" dimension, relocate to correct dimension
	Blade attack angle incorrect	Verify "C" dimension, relocate to correct dimension
	Cleaner running on empty belt	Use a spray pole when the belt is empty
	Cleaner tension too high/low	Adjust to correct tension or slight adjust to diminish
	Cleaner locking bolts not secure	Check and tighten all bolts and nuts
	Cleaner not square to head pulley	Verify "C" dimension, relocate to correct dimension
	Material buildup in chute	Clean up build-up on cleaner and in chute
Cleaner being pushed away from pulley	Cleaner tension not set correctly	Ensure correct tension/increase tension slightly
	Sticky material is overburdening cleaner	Increase tension; replace with cleaner with metal tips; replace with larger size cleaner
	Cleaner not set up correctly	Confirm location dimensions are equal on both sides

Section 7 – Replacement Parts List



Replacement Parts

Ref	Description	Ordering Number	Item Code	Wt. Kg.
1	600mm (24") Pole	H78P24	76111	21.1
	750mm (30") Pole	H78P30	76112	22.8
	900mm (36") Pole	H78P36	76113	25.3
	1050mm (42") Pole	H78P42	76114	27.7
	1200mm (48") Pole	H78P48	76115	29.4
	1350mm (54") Pole	H78P54	76116	32.0
	1500mm (60") Pole	H78P60	76117	45.3
2a	H2 XF-Tip Cushion* (for S - LL Susp. Arms)	HXFC2	75902	4.0
2b	H2 F-Tip Cushion* (for SS Susp. Arms)	HFC2	75901	4.0
2c	HD H-Type Cushion*	HSHD	73483	2.0
3	H Protected V-Tip* (1 ea.) for vulcanized belts only) (for abusive wear)	HVPT	73631	1.2
4	H SS Suspension Arm*	HSA8SS	73047	0.2
	H S Suspension Arm*	HSA8S	73048	0.5
	H M Suspension Arm*	HSA8M	73049	0.7
5	Pole Lock Collar* (1 ea.)	MSPPL	75816	0.9
6	Pivot Arm Kit* (1 ea.)	QMTPAK	76096	2.0
7	Tension Spring - White (1 ea.)**	PSTS-W	75898	0.8
8	Bushing Kit - White (2 ea.) (for Items 6a & 6b)	QMTBK-W	76098	0.1
9	Pivot Shaft Bracket Kit* (1 ea.)	QMTPSBK	76099	2.0
10	Torque Arm Kit* (1 ea.)	PSTA	75896	5.2
11	H SS Tip Shield	HSSTS	74771	0.2
-	H SS Cushion Shield	HSSCS	74772	0.3
-	QMT Spring Tensioner* - White (incl. 1 ea. Items 6, 7a, 8a, 9, & 10)	QMT-W	76075	9.9

*Hardware included

Note: All poles and tensioners are heavy-duty style.

Lead time: 1 working day

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