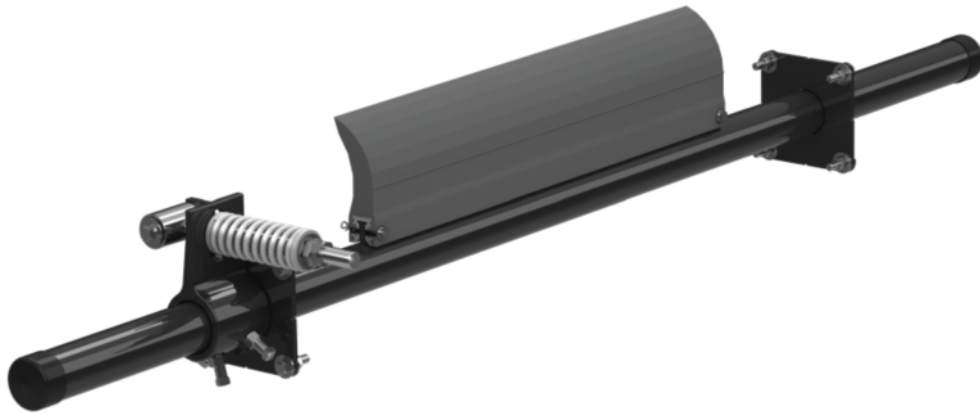


MSP Precleaner

Installation, Operation and Maintenance Manual



Section 3 - Pre-installation Checks and Options

3.1 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 (see 3.3 - Optional Installation Accessories)
 - Are there obstructions that may require cleaner location adjustments (see 3.2 - Cleaner Location Adjustments)

Section 3 - Pre-installation Checks and Options (cont.)

3.2 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.

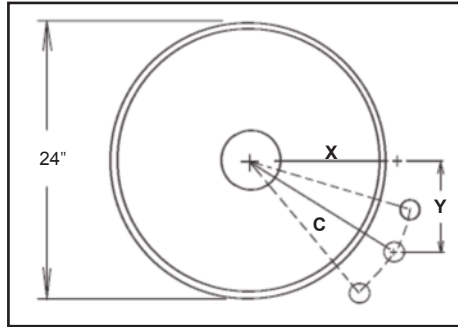
Conveyor situation:

Pulley Diameter: 24"

X=12"

Y=9"

C=15"



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 = 9 + 2 = 11"

C = 15"

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 = 10 3/16"

Y = 11"

C = 15"

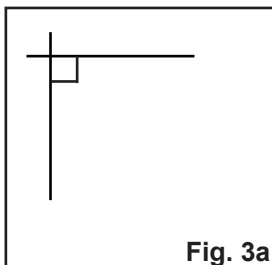


Fig. 3a

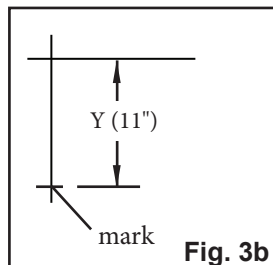


Fig. 3b

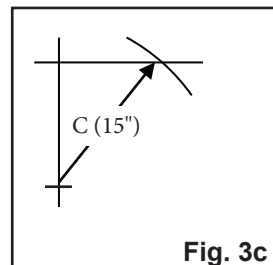


Fig. 3c

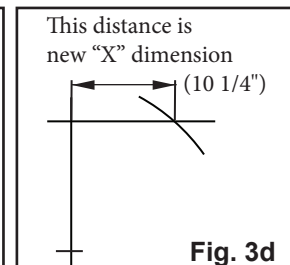


Fig. 3d

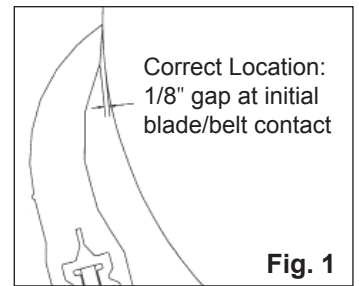
Section 3 - Pre-Installation Checks and Options (cont.)

3.4 Correct Blade Installation and Tensioning

For optimal cleaning efficiency and long wear life, the ConShear™ blade must be located and tensioned correctly on the belt head pulley. If the cleaner pole is in the wrong location the performance of the new blade may be adversely affected. See “Possible Problems” below. For tensioning, please follow these instructions.

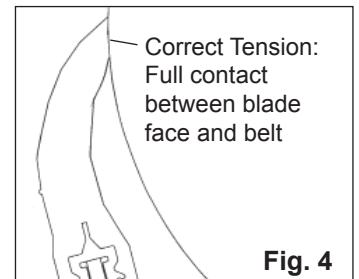
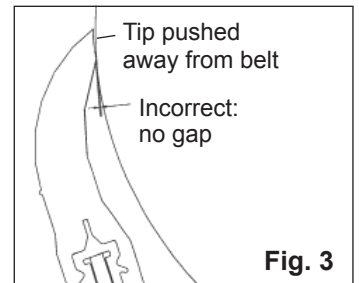
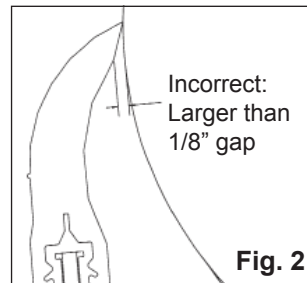
Correct Location:

When blade contact is made against the head pulley (prior to tensioning) there should be a 1/16" to 1/8" gap at the bottom of the blade face (Fig. 1).



Possible Problems:

- Pole location too far out - The initial blade/belt contact gap will be larger than 1/8" (Fig. 2). If the blade is correctly tensioned it may flip through before it is fully worn. If tensioned too lightly, it will develop the “smile effect” quickly and not clean properly.
- Pole location too far in - If there is no gap at the initial blade/belt contact (Fig. 3), the tip of the blade may not be touching the belt. In this case, the blade will push away and lose its shearing (cleaning) effect. The blade may also develop a flap at the tip which may trap material.



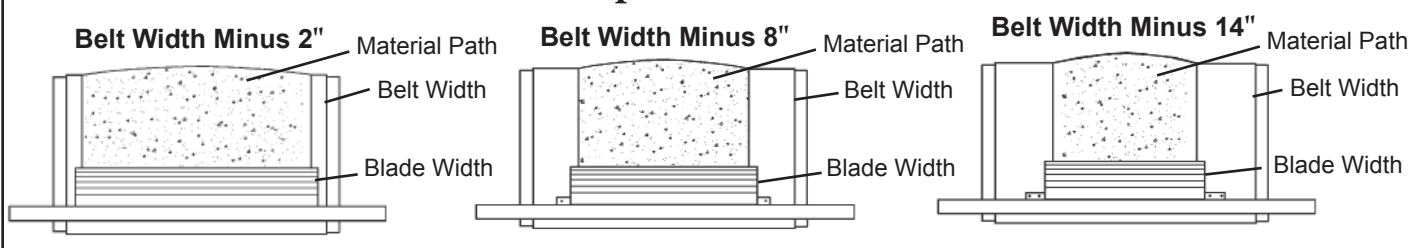
Correct Tensioning:

The blade should be tensioned until the gap is gone (Fig. 4).

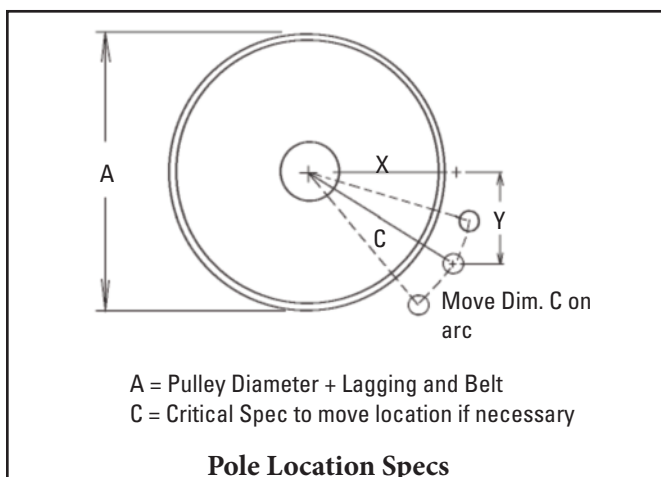
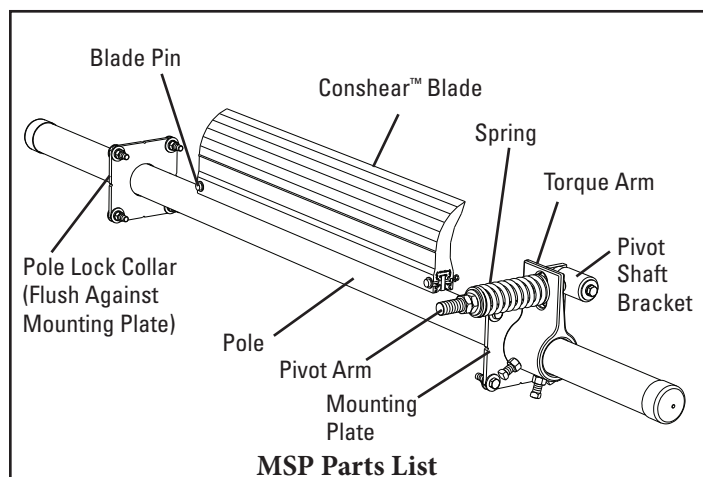
The “Material Path” Option

For optimal cleaning and reduced blade retensioning, the cleaner blade width should be sized to fit the material path of the belt. The material path is typically the center 2/3 of the belt width. Choosing a blade only slightly wider than the material path can decrease differential blade wear which reduces blade retensioning maintenance, as well as reducing the frequency of blade replacement.

Match blade width to belt's material path



Section 4 - Installation Instructions - MSP Precleaner

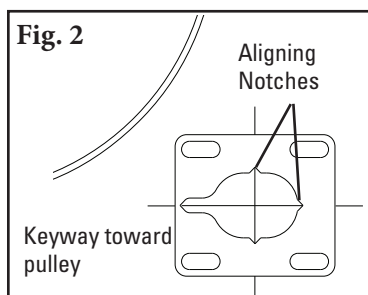


Physically lock out and tag the conveyor at the power source before you begin cleaner installation.

- 1. Locate the correct pole position.** Measure and determine Dimension A (see instructions above). Find Dimension A on the Pole Location Chart at right and determine Dimensions X, Y and C. Measure out horizontally from the center of the pulley shaft Dim X and mark. From that mark, draw a long vertical line down, then measure and mark Dim Y. This indicates the location of the center of the cleaner pole. Measure and mark both sides. NOTE: If the location is obstructed, use Dim. C and move on an arc from the center of the pulley shaft to find an open position. Dim. C must remain constant to correctly locate the pole (see drawing above). NOTE: For open head installs, first add mounting support materials to the structure.

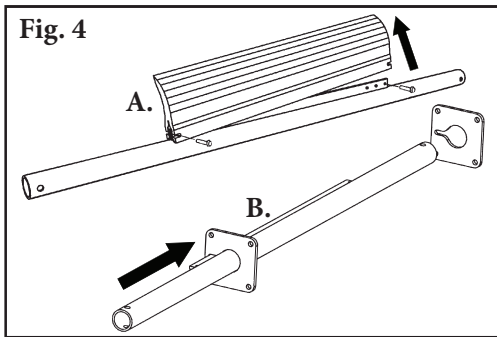
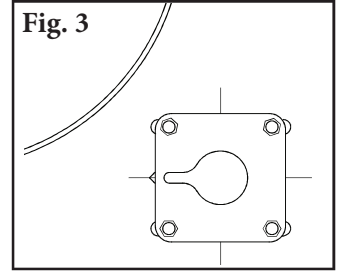
Pole Location Chart			
A	X	Y	C
16	7 1/8	9	11 1/2
17	7 7/8	9	12
18	8 1/4	9	12 1/4
19	9	9	12 3/4
20	9 3/8	9	13
21	10	9	13 1/2
22	10 3/4	9	14
23	11 3/8	9	14 1/2
24	12	9	15
25	12 5/8	9	15 1/2
26	13 1/4	9	16
27	13 7/8	9	16 1/2
28	14 3/8	9	17
29	15	9	17 1/2
30	15 5/8	9	18
31	16 1/8	9	18 1/2
32	16 3/4	9	19
33	17 1/4	9	19 1/2
34	17 7/8	9	20
35	18 3/8	9	20 1/2
36	19	9	21
37	19 1/2	9	21 1/2
38	20	9	22
39	20 5/8	9	22 1/2
40	21 1/8	9	23
41	21 3/4	9	23 1/2
42	22 1/4	9	24

- 2. Mark and cut the mounting plate holes.** Using the mounting plate template provided in the instruction packet, position the large pole access hole on the chute, aligning the hole notches with the layout lines. Position the keyway toward the pulley. Trace the pole cutout and mounting holes (Fig. 2). Cut the holes on both sides of the chute. NOTE: Hole cutouts are slotted for later adjustment if needed.



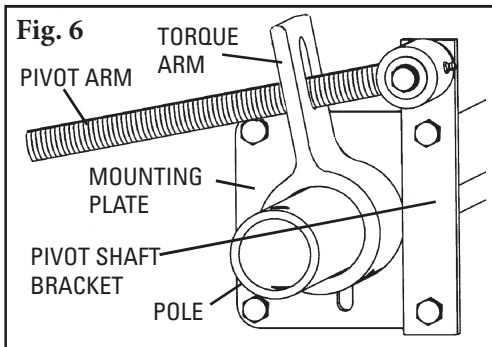
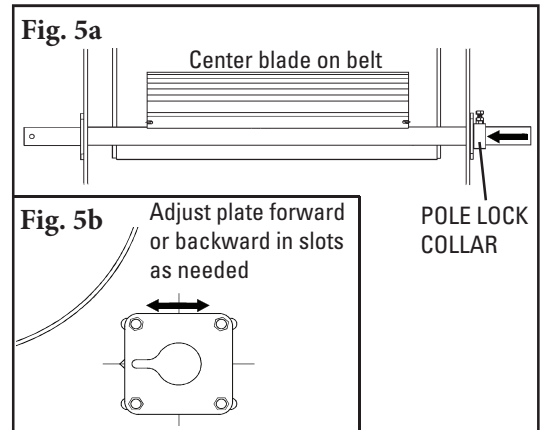
Section 4 - Installation Instructions - MSP Precleaner

3. **Install the mounting plates.** Bolt the mounting plates to the chute with bolts provided. Center plates on the slotted holes and tighten bolts (Fig. 3).



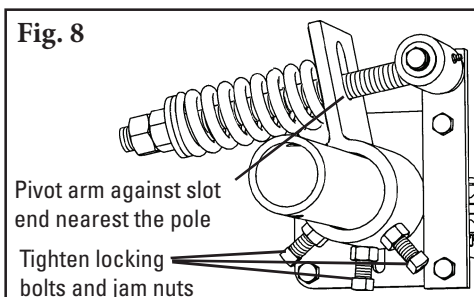
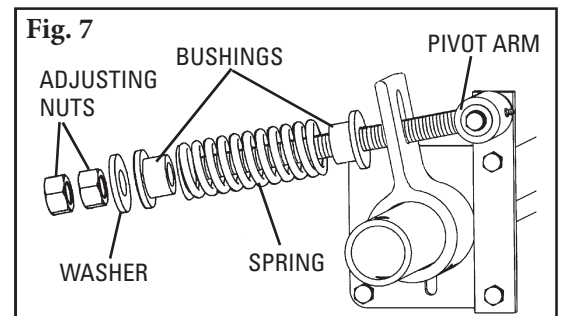
4. **Install the pole.** Remove both blade pins and blade from the pole and insert the pole in through the mounting plates (Fig. 4).

5. **Center the cleaner on the belt and lock in place.** Reinstall the blade with both blade pins. Center the blade on the belt and install the pole lock collar onto the pole (on the end opposite the end to be used for the tensioner), snugly up to the mounting plate (Fig. 5a). Rotate the blade up to the belt and check to insure that the blade is square to the pulley face. If not, loosen a mounting plate on one side and adjust the plate forward or backward to square the blade to the pulley, and retighten the bolts (Fig. 5b).



6. **Install the QMT spring tensioner.** Remove the adjusting nuts and springs 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. 6). Remove bolts, nuts and washers from mounting plate and reinstall through pivot shaft bracket and mounting plate.

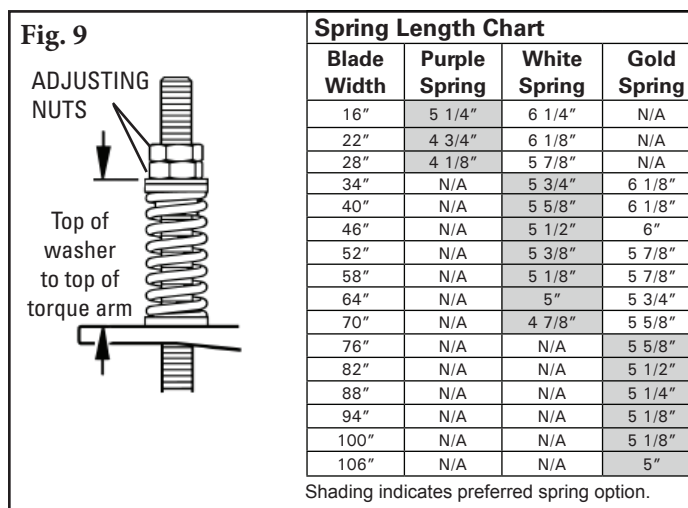
7. **Reassemble the spring assembly.** Slide the spring, washer and bushings onto the pivot arm and turn the two adjusting nuts so about 1/4" of the pivot arm is exposed above the nuts (Fig. 7).



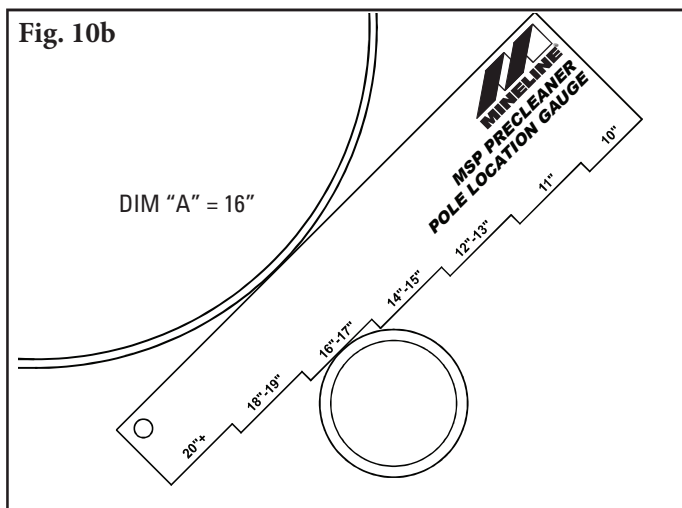
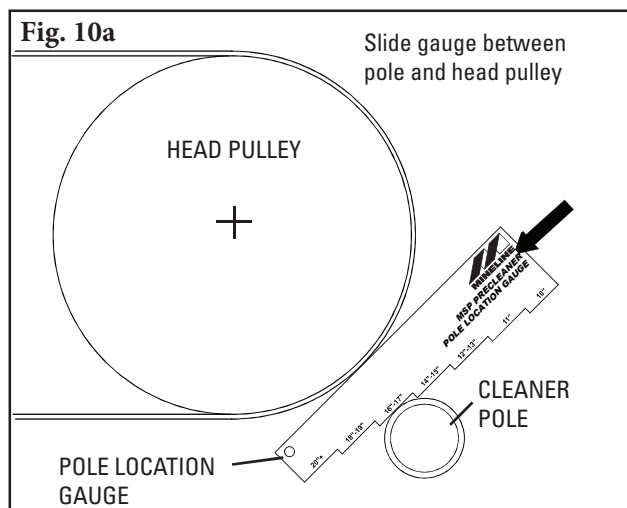
8. **Tension the blade to the belt.** Rotate the blade until it contacts the belt. While holding the spring bushing flat on the torque arm, rotate the torque arm until the pivot arm is against the end of the slot nearest the pole. Tighten the locking bolts and jam nuts on the torque arm (Fig. 8). NOTE: The torque arm should be up against the mounting plate.

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9. **Set the correct blade tension.** Refer to the chart on the pivot shaft bracket for the spring length required for the blade 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. 9). Tighten jam nut.



10. **Confirm correct pole location.** After the cleaner is installed, slide the Pole Location Gauge (provided in the instruction packet) between the cleaner pole and the pulley, until it stops at a step (Fig. 8a). Read the flat area where the pole is resting (Fig. 8b). This diameter should be equal to Dim A used in Step 1. NOTE: If the diameter reading on the Pole Location Gauge does not read the same as in Step 1, check the "C" dimension and correct accordingly.



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 - Pre-Operation Checklist and Testing

5.1 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

5.2 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.