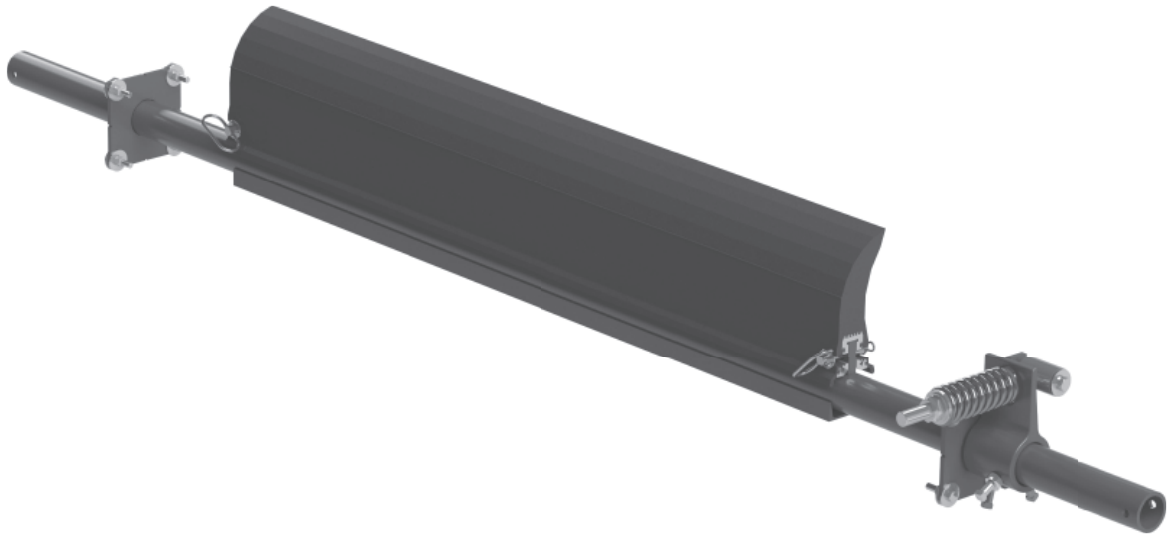
MMP OE Precleaner

Installation, Operation and Maintenance Manual



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

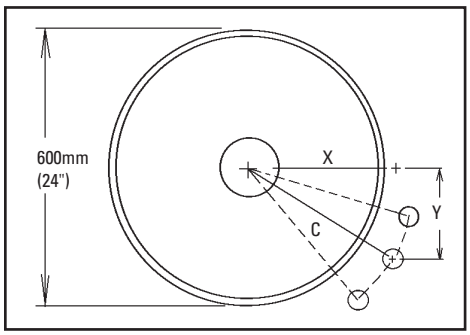
Cleaner Location Adjustments

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: 610mm (24")
X = 321mm (12 5/8")
Y = 305mm (12")
C = 441mm (17 3/8")



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 50mm (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 50mm (2"), so we add 50mm (2") to the given "Y" dimension.

   X = ?"
   Y = 306 + 50 = 356mm (12 + 2 = 14")
   C = 441mm (17 3/8")

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 = 260mm (10 1/4")
   Y = 356mm (14")
   C = 441mm (17 3/8")

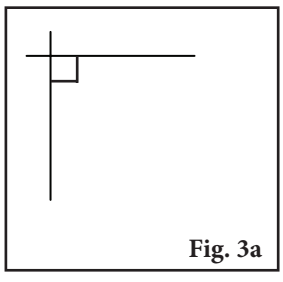


Fig. 3a

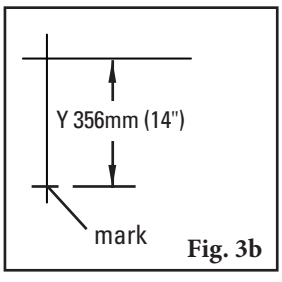


Fig. 3b

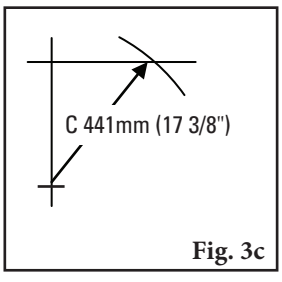


Fig. 3c

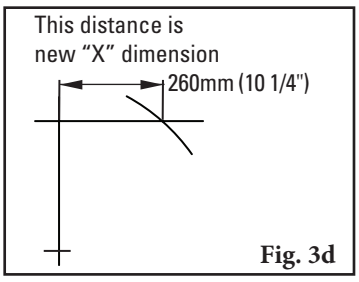


Fig. 3d

Correct Blade Installation and Tensioning

For optimal cleaning efficiency and long wear life, the TuffShear™ 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 1.6mm (1/16") to 3mm (1/8") gap at the bottom of the blade face (Fig. 1).

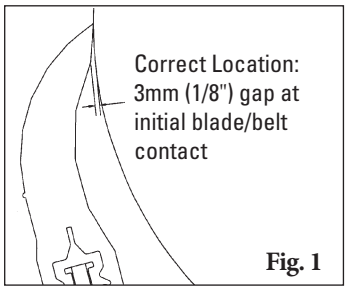


Fig. 1

Possible Problems:

- Pole location too far out - The initial blade/belt contact gap will be larger than 3mm (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.

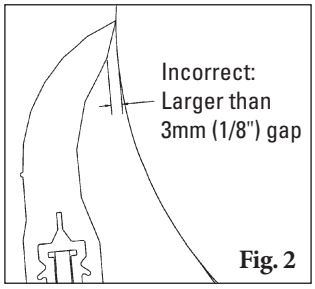


Fig. 2

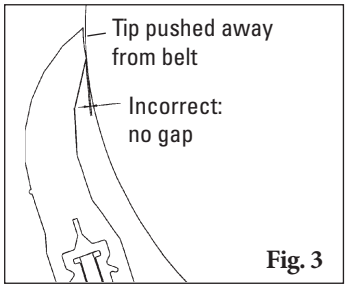


Fig. 3

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

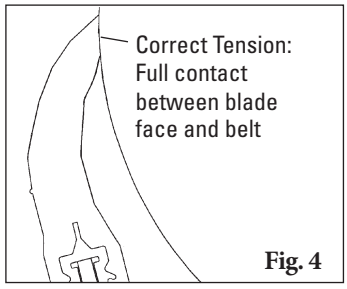
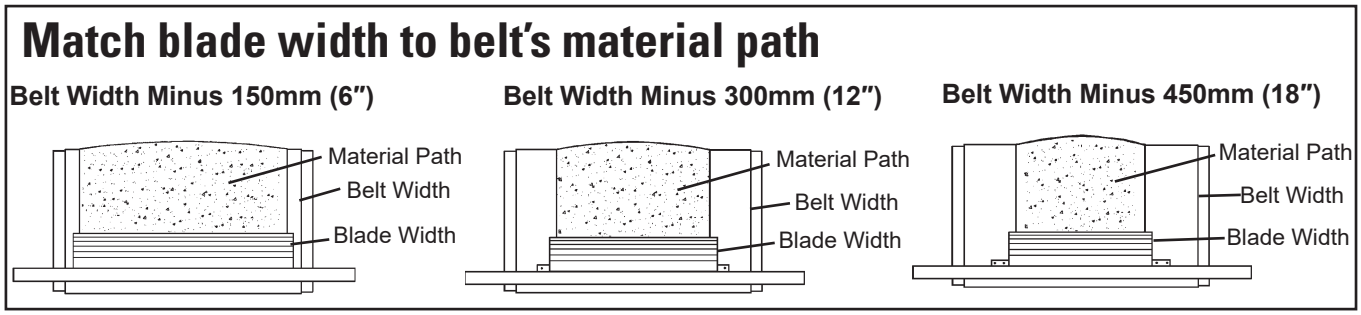


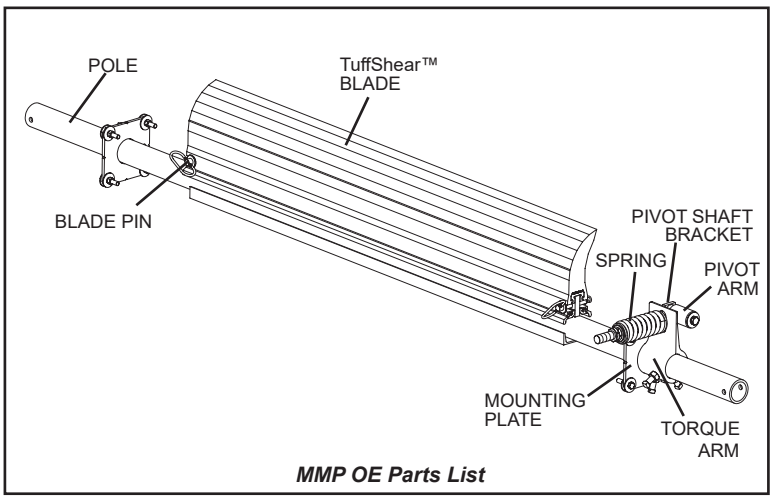
Fig. 4

The "Material Path" Option

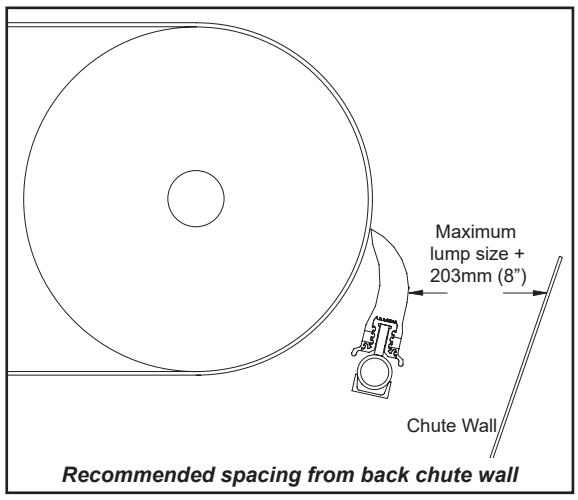
For optimal cleaning and reduced blade retensioning, the cleaner blade width should be sized to fit the material path of the belt. The material path is typically the center 2/3 of the belt width. Choosing a blade only slightly wider than the material path can decrease differential blade wear which reduces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



Installation Instructions - MMP OE Precleaner



MMP OE Parts List



Recommended spacing from back chute wall

PHYSICALLY LOCK OUT AND TAG OUT THE CONVEYOR AT THE POWER SOURCE BEFORE YOU BEGIN CLEANER INSTALLATION.

CAUTION: Components may be heavy. Use safety-approved lifting procedures.

Tools Needed:

- Tape measure
- Level
- 19mm (3/4") combination wrench
- Ratchet with 19mm (3/4") socket
- Marking pen or soapstone
- Adjustable pliers
- Large adjustable wrench
- Torch or welder

1. **Find the X, Y & C specifications.** Measure the pulley diameter (including the belt and the lagging) (Fig. 1).

   Pulley Diameter _____; X=_____; Y=_____; C=_____.

   (Adjustments can be made to the X & Y coordinates to move away from obstacles as long as the C dimension remains constant. See Section 3.2.)

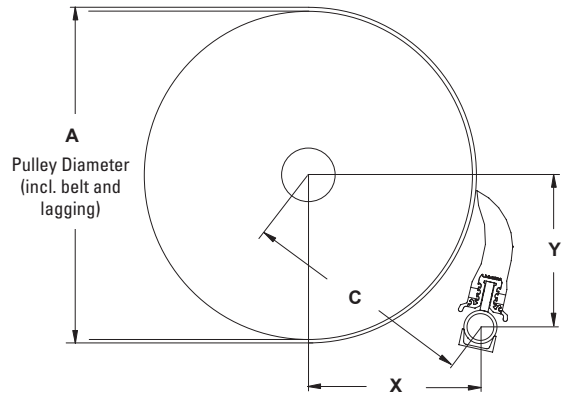


Fig. 1 *Pole Location Specs*

Pole Location Chart

A		X		Y		C	
mm	in.	mm	in.	mm	in.	mm	in.
400	16	204	8 1/8	305	12	367	14 1/2
425	17	218	8 3/4	305	12	375	14 7/8
450	18	231	9 1/4	305	12	383	15 1/8
475	19	244	9 3/4	305	12	390	15 1/2
500	20	259	10 3/8	305	12	400	15 7/8
525	21	274	11	305	12	410	16 1/4
550	22	288	11 1/2	305	12	419	16 5/8
575	23	300	12	305	12	428	17
600	24	315	12 5/8	305	12	438	17 3/8
625	25	328	13 1/8	305	12	448	17 3/4
650	26	341	13 5/8	305	12	457	18 1/8
675	27	353	14 1/8	305	12	467	18 1/2
700	28	366	14 5/8	305	12	476	18 7/8
725	29	380	15 1/4	305	12	487	19 3/8
775	30	392	15 5/8	305	12	497	19 3/4
775	31	403	16 1/8	305	12	506	20 1/8
825	32	417	16 3/4	305	12	517	20 5/8
825	33	432	17 1/4	305	12	528	21
850	34	444	17 3/4	305	12	539	21 3/8
875	35	457	18 1/4	305	12	549	21 7/8
900	36	469	18 3/4	305	12	559	22 1/4
925	37	483	19 3/8	305	12	571	22 3/4
950	38	496	19 3/4	305	12	582	23 1/8
975	39	508	20 3/8	305	12	592	23 5/8
1000	40	521	20 3/4	305	12	604	24
1025	41	533	21 3/8	305	12	614	24 1/2
1050	42	550	21 7/8	305	12	629	25
1075	43	569	22 1/2	305	12	646	25 1/2
1100	44	584	23 1/8	305	12	659	26
1125	45	601	23 5/8	305	12	674	26 1/2
1150	46	615	24 1/8	305	12	686	27
1175	47	632	24 3/4	305	12	702	27 1/2
1200	48	645	25 1/4	305	12	714	28

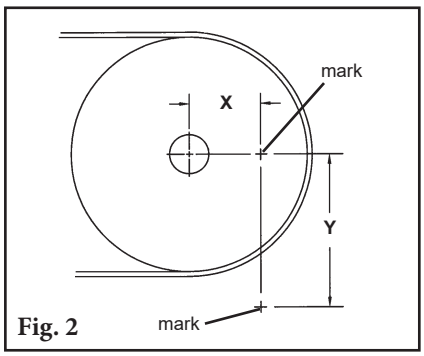


Fig. 2

2. **Lay out the dimensions on the chute wall.** Measure out the X dimension horizontally from the center of the pulley shaft and mark. (**NOTE:** It may be easier to put a level on top of the pulley shaft, draw a horizontal line and then measure down half the diameter of the shaft and make a line from the front of the shaft. Now subtract half the pulley shaft diameter from the X coordinate and measure on the line and make a mark.) Then measure down vertically the Y dimension and mark. This is the correct position for the center of the cleaner pole (Fig. 2). Lay out and mark the same dimensions on the other side.

3. **Mark and cut the mounting base holes.** Using the mounting base template provided in the instruction packet, position the large pole hole of the template on the chute with the hole notches aligned with the layout lines. Trace the pole hole and mounting holes (Fig. 3). Each base can be mounted in any position 360° around the pole as long as the pole's center point does not change. Cut the holes on both sides of the chute.

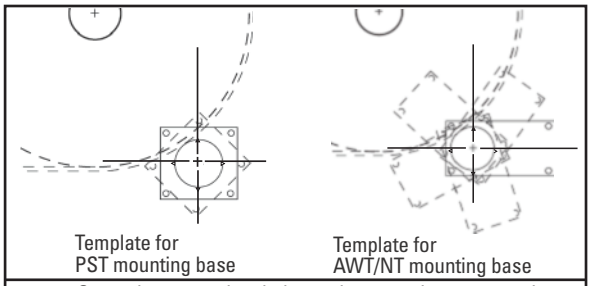


Fig. 3 Center large template hole notches on pole center mark, rotate to desired angle and trace holes

4. **Install the mounting plates.** Position both mounting plates with the keyways toward the pulley and weld or bolt the mounting plates in place using bolts provided (Fig. 5).

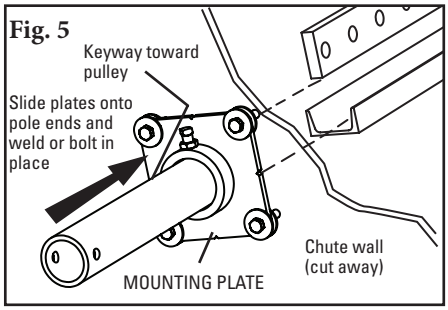


Fig. 5

5. **Center the cleaner on the belt and lock in place.** Reinstall the blade (Fig 6a). Slide the pole until the blade is centered or covers the material path (Fig. 6b). **NOTE:** Standard blade coverage is belt width minus 150mm (6"). If less blade coverage is required, there are additional blade hole positions available on the pole for use of belt width minus 305 & 457mm (12" & 18").

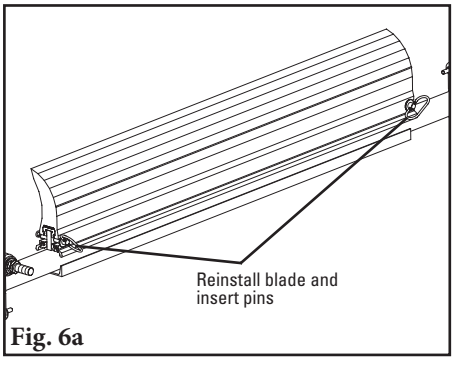


Fig. 6a

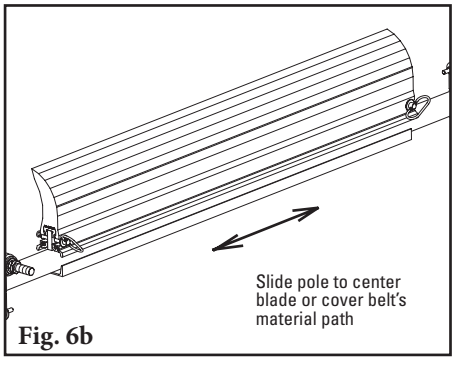


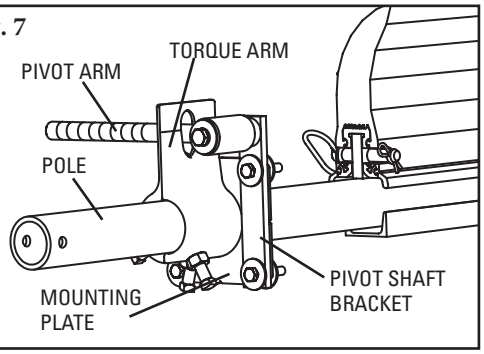
Fig. 6b

Installation Instructions - MMP OE Precleaner (cont.)

Installing the QMT Spring Tensioner

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. 7). Remove bolts, nuts and washers from mounting plate and reinstall through pivot shaft bracket and mounting plate.

Fig. 7



7. **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. 8).

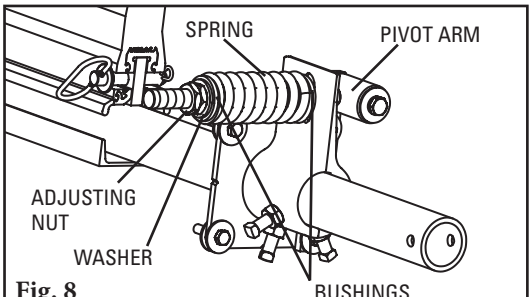


Fig. 8

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

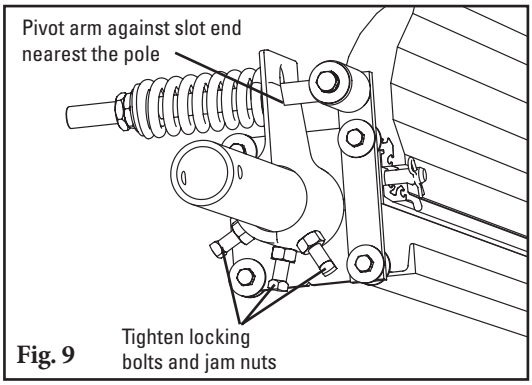
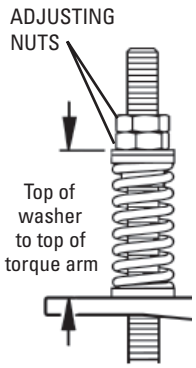


Fig. 9

9. **Set the correct blade tension.** Refer to the chart on the pivot shaft bracket 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).

Fig. 10



Spring Length Chart

Blade Width		Gold Springs		Silver Springs	
mm	in.	mm	in.	mm	in.
600	24"	147	5 3/4"	157	6 1/8"
750	30"	142	5 5/8"	154	6 1/8"
900	36"	137	5 3/8"	152	6"
1050	42"	132	5 1/8"	149	5 7/8"
1200	48"	N/A	N/A	146	5 3/4"
1350	54"	N/A	N/A	143	5 5/8"
1500	60"	N/A	N/A	140	5 1/2"
1650	66"	N/A	N/A	138	5 3/8"
1800	72"	N/A	N/A	135	5 1/4"

Shading indicates preferred spring option.

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.