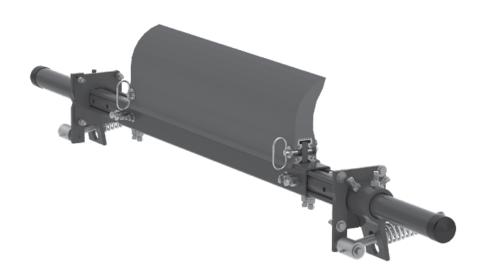
MMP Precleaner

Installation, Operation and Maintenance Manual





MMP Precleaner

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 - Important Information

1.1 General Introduction

We at Flexco are very pleased that you have selected an MMP Belt Cleaner for your conveyor system.

This manual will help you to understand the operation of this product and assist you in making it work up to its maximum efficiency over its lifetime of service.

It is essential for safe and efficient operation that the information and guidelines presented be properly understood and implemented. This manual will provide safety precautions, installation instructions, maintenance procedures and troubleshooting tips.

If, however, you have any questions or problems that are not covered, please visit our web site or contact our Customer Service Department:

Customer Service: 1-800-541-8028

Visit www.flexco.com for other Flexco locations and products.

Please read this manual thoroughly and pass it on to any others who will be directly responsible for installation, operation and maintenance of this cleaner. While we have tried to make the installation and service tasks as easy and simple as possible, it does however require correct installation and regular inspections and adjustments to maintain top working condition.

1.2 User Benefits

Correct installation and regular maintenance will provide the following benefits for your operation:

- Reduced conveyor downtime
- Reduced man-hour labor
- Lower maintenance budget costs
- Increased service life for the belt cleaner and other conveyor components

1.3 Service Option

The MMP Precleaner is designed to be easily installed and serviced by your on-site personnel. However, if you would prefer complete turn-key factory service, please contact your local Flexco Field Engineer or your Flexco Distributor.

Section 2 - Safety Considerations and Precautions

Before installing and operating the MMP Precleaner, 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.

2.1 Stationary Conveyors

The following activities are performed on stationary conveyors:

- Installation
- Blade replacement
- Repairs

- Tension adjustments
- Cleaning

A 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

A 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.

2.2 Operating Conveyors

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

- Inspection of the cleaning performance
- Dynamic troubleshooting

A DANGER

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

A 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.

A 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.



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.

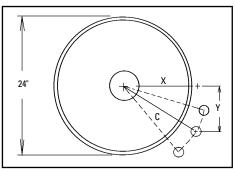
Conveyor situation:

Pulley Diameter: 24"

$$X = 12 5/8$$
"

$$Y = 12"$$

$$C = 17 \ 3/8$$
"



- 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 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.

$$X = ?"$$

$$Y = 12 + 2 = 14$$
"

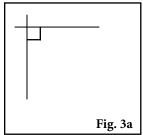
$$C = 17.3/8$$
"

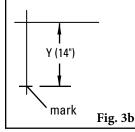
3. Determine final dimension. On a flat vertical surface, using a level, draw one horizontal line and one vertical line creating a right triangle (Fig 3a). Measure down from the intersection the determined "Y" dimension and mark (Fig 3b). With the tape measure starting at the modified "Y" mark, swing 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).

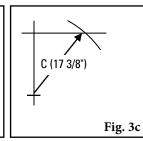
$$X = 10 \ 1/4$$
"

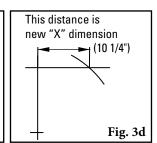
$$Y = 14''$$

$$C = 17.3/8$$
"









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

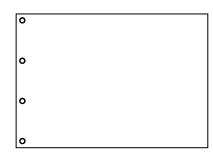
3.3 Optional Installation Accessories

Versatile, adjustable brackets and plates that can be mounted on the conveyor structure so precleaners and secondary cleaners can be easily and quickly bolted into place.

75830

0

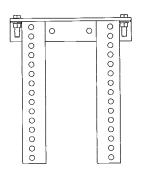
- Optional Mounting Bar Kit (with bolts, nuts and washers)
- For mounting precleaners on open head pulleys.
- Weld on both sides of pulley and bolt on steel plates.
- 1-1/2" W x 16" L with (4) 5/8-11 tapped holes



76537

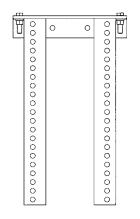
Mounting Plate Kit (incl. 2 plates)

- For use with Mounting Bars to mount cleaners on open head pulleys.
- 16" x 32" (400 x 800mm) with (4) 5/8" holes



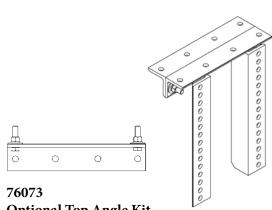
76071 Standard Mounting Bracket Kit

• For most secondary cleaner installs.



76072 Long Mounting Bracket Kit

• For installations that require extra length legs.



Optional Top Angle Kit

 Used with both standard and long mounting bracket kits for additional mounting options.

Optional Mounting Kits (incl. 2 brackets/bars)

Description	Ordering Number	Item Code	Wt. Lbs.
Standard Mounting Bracket Kit*	SSTSMB	76071	34.3
Long Mounting Bracket Kit*	SSTLMB	76072	43.5
Optional Top Angle Kit*	SSTOTA	76073	10.5
Optional Mounting Bar Kit *	MMBK	75830	19.5
Mounting Plate Kit (incl. 2 plates)	MMPK	76537	140.0

*Hardware Included Lead time: 1 working day

Specs and Notes:

- Standard brackets are 13"W x 15 1/2"L.
- Long brackets are 13"W x 21-1/2"L.
- Mounting bars are 1-1/2"W x 16" L with (4) 5/8-11 tapped holes.
- Mounting plates are 16"W x 32"L with (4) 5/8 holes.

Pole Extender Kit (incl. 2 pole extenders)

Description	Ordering	Item	Wt.
	Number	Code	Lbs.
Pole Extender Kit	MAPEK	76024	21.9

Provides 30" (750mm) of extended pole length.

Lead time: 1 working day

0	
0	1

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

3.4 Correct Blade Installation and Tensioning

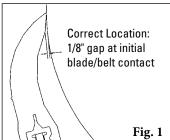
For optimal cleaning efficiency and long wear life, the TuffShear blade must be located and tensioned correctly on the belt head pulley. If the cleaner pole is in the wrong location the performance of the new blade may be adversely affected. See "Possible Problems" below. For tensioning, please follow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

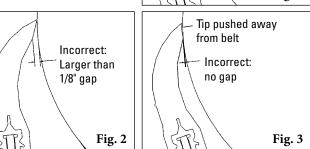
Correct Location:

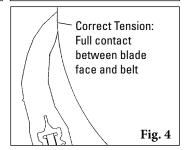
When blade contact is made against the head pulley (prior to tensioning) there should be a 1/16" to 1/8" gap at the bottom of the blade face (Fig. 1).

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.





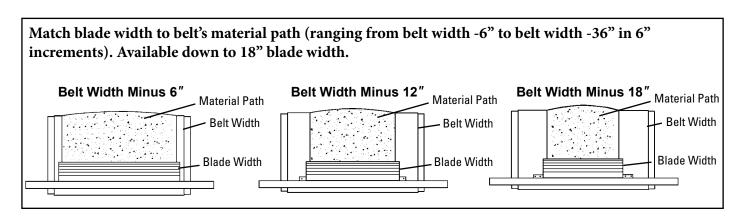


Correct Tensioning:

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

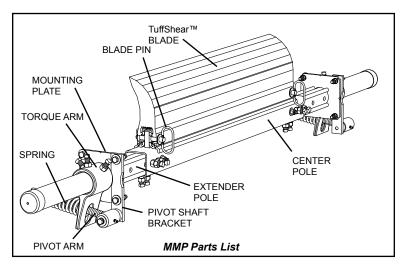
The "Material Path" Option

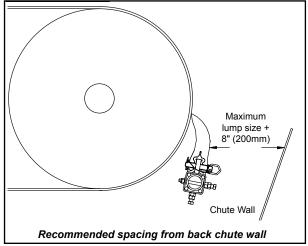
For optimal cleaning and reduced blade retensioning, the cleaner blade width should be sized to fit the material path of the belt. The material path is typically the center 2/3 of the belt width. Choosing a blade only slightly wider than the material path can decrease differential blade wear which reduces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





Section 4 - Installation Instructions - MMP Precleaner





PHYSICALLY LOCK OUT AND TAG 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

- Marking pen or soapstone

- Level

- Adjustable pliers

- 3/4" combination wrench

- Large adjustable wrench

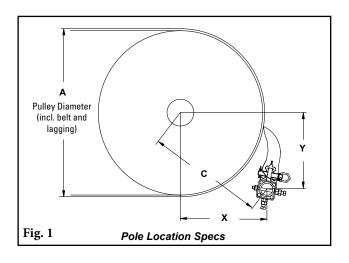
- Ratchet with 3/4" socket

- Torch or welder

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

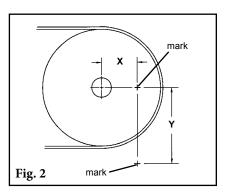
Pulley Diameter _____"; X=____"; Y=____"; C=____".

(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.)



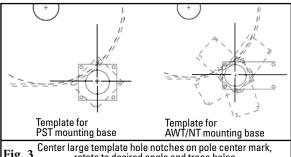
Pole Location Chart

Α	Х	Υ	С
16"	8 1/8	12	14 1/2
17"	8 3/4	12	14 7/8
18"	9 1/4	12	15 1/8
19"	9 3/4	12	15 1/2
20"	10 3/8	12	15 7/8
21"	11	12	16 1/4
22"	11 1/2	12	16 5/8
23"	12	12	17
24"	12 5/8	12	17 3/8
25"	13 1/8	12	17 3/4
26"	13 5/8	12	18 1/8
27"	14 1/8	12	18 1/2
28"	14 5/8	12	18 7/8
29"	15 1/4	12	19 3/8
30"	15 5/8	12	19 3/4
31"	16 1/8	12	20 1/8
32"	16 3/4	12	20 5/8
33"	17 1/4	12	21
34"	17 3/4	12	21 3/8
35"	18 1/4	12	21 7/8
36"	18 3/4	12	22 1/4
37"	19 3/8	12	22 3/4
38"	19 3/4	12	23 1/8
39"	20 3/8	12	23 5/8
40"	20 3/4	12	24
41"	21 3/8	12	24 1/2
42"	21 7/8	12	25
43"	22 1/2	12	25 1/2
44"	23 1/8	12	26
45"	23 5/8	12	26 1/2
46"	24 1/8	12	27
47"	24 3/4	12	27 1/2
48"	25 1/4	12	28

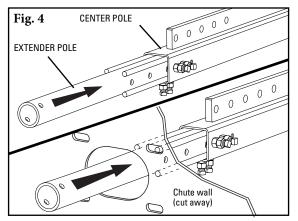


2. Lay out the dimensions on the chute wall. Measure out the X dimension horizontally from the center of the pulley shaft and mark. (**NOTE:** It may be easier to put a level on top of the pulley shaft, draw a horizontal line and then measure down half the diameter of the shaft and make a line from the 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.

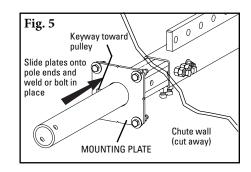
3. Mark and cut the mounting base holes. Using the mounting base template provided in the instruction packet, position the large pole hole of the template on the chute with the hole notches aligned with the layout lines. Trace the pole hole and mounting holes (Fig. 3). Each base can be mounted in any 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.

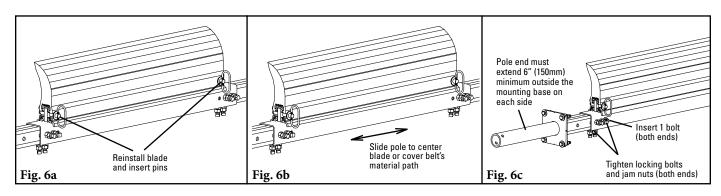


rotate to desired angle and trace holes



- **4.** Assemble the extender poles to the center pole. Insert the extender poles through the chute holes and into the center pole (Fig. 4). Leave the locking bolts loose.
- 5. 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).
- **6.** 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 6". If less blade coverage is required, there are additional blade hole positions available on the pole for use of belt width minus 12" & 18". Adjust the extender poles until the pole ends extend out past the mounting plates at least 6" on each side for the tensioner installation (Fig. 6c). Slide the extender poles in the center pole to align with the center pole mounting holes and insert both bolts. Lock the four center pole locking bolts and tighten the locking bolt jam nuts.





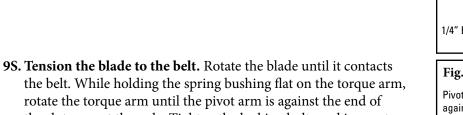
Section 4 - Installation Instructions - MMP Precleaner (cont.)

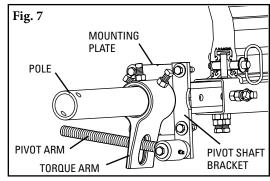
Install the Tensioning System. For the QMT Spring Tensioner go to step 7S. For the PAT Tensioner proceed to step 7P.

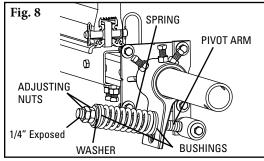
QMT Spring Tensioner

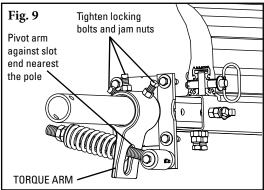
- 7S. Install the QMT spring tensioner. Remove the adjusting nuts and springs from the pivot rod. Insert the pivot arm through the slot in the torque arm. Slide the torque arm onto the pole end (be sure the rotation of the arm is correct to tension the blade) and rotate it until the pivot shaft bracket 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.
- 8S. 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).

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.

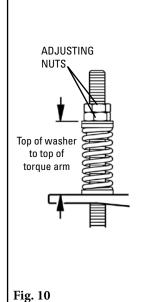








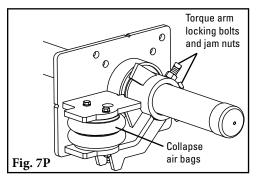
10S. Set the correct blade tension. Refer to the chart on the pivot shaft bracket for the spring length required for the belt width. Lightly pull the pivot arm toward the end of the torque arm slot nearest the pole and turn the adjusting nuts until the required spring length is achieved (Fig. 10).



Spring Length Chart							
Blade Width	Purple Springs	White Springs	Gold Springs	Silver Springs			
18"	4 3/8"	6"	N/A	N/A			
24"	N/A	5 3/4"	6"	N/A			
30"	N/A	5 1/2"	5 7/8"	N/A			
36"	N/A	5 3/8"	5 3/4"	N/A			
42"	N/A	5 1/8"	5 5/8"	6 1/8"			
48"	N/A	5″	5 5/8"	6 1/8"			
54"	N/A	4 3/4"	5 1/2"	6"			
60"	N/A	4 1/2"	5 3/8"	6"			
66"	N/A	N/A	5 1/4"	5 7/8"			
72"	N/A	N/A	5 1/8"	5 7/8"			
78"	N/A	N/A	5″	5 3/4"			
84"	N/A	N/A	4 7/8"	5 3/4"			
90"	N/A	N/A	N/A	5 3/4"			
96"	N/A	N/A	N/A	5 5/8"			
102"	N/A	N/A	N/A	5 5/8"			
108"	N/A	N/A	N/A	5 1/2"			
114"	N/A	N/A	N/A	5 1/2"			
Shading ind	Shading indicates preferred spring option.						

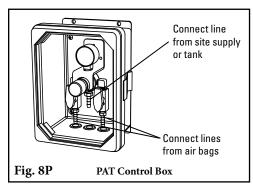
Section 4 - Installation Instructions - MMP Precleaner (cont.)

Portable Air Tensioner (PAT)



NOTE: PAT Tensioners are shipped with the air bags and torque arms attached to the mounting bases.

7P. Tension the blades to the belt. Collapse both air bags (with C-clamps) and rotate the blades until they are 1" (25mm) short of contact with the belt. Tighten the torque arm locking bolts and jam nuts (Fig. 7P).



8P. Connect the supply lines and set tension pressure. With the parts supplied, attach a line to each air bag and run the lines to the outlet side of the control box (Fig. 8P). NOTE: Be sure lines are safely away from the belt. Connect a line from the inlet side of the box to the site's supply, or air tank. Test the connections for leaks and set the pressure per the chart on the control box (also shown to right).

9P. Test run the cleaner. Run the conveyor for at least 15 minutes and inspect cleaning performance. Make adjustments as necessary.

Pressure Chart

5#
6#
8#
9#
11#
13#
14#
16#
17#
19#
21#
22#
24#
25#
27#
28#
30#

^{*}PSI setting is based on the belt width.



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.

Section 6 - 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 MMP 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.

6.1 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.

6.2 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.

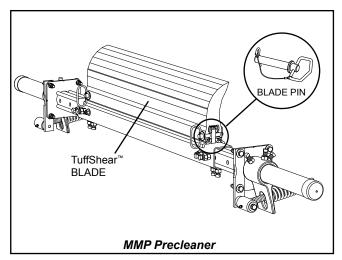
6.3 Routine Physical Inspection (every 6-8 weeks)

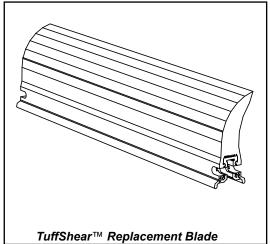
When the conveyor is not in operation and properly locked and tagged out a physical inspection of the cleaner to perform the following tasks:

- 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 and retaining clips 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 12.
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly



6.4 Blade Replacement Instructions



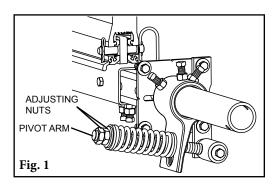


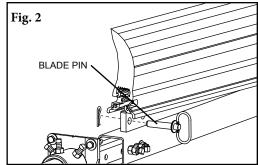
PHYSICALLY LOCK OUT AND TAG THE CONVEYOR AT THE POWER SOURCE BEFORE YOU BEGIN CLEANER MAINTENANCE.

Tools Needed:

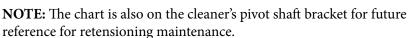
- Tape measure
- (2) 1½" wrenches or crescent wrenches
- Wire brush (for cleaning pole)
- Small putty knife (for cleaning pole)
- 1. Remove the tension. Loosen the adjusting nuts on both sides and turn them out until they are flush with ends of the pivot arms (Fig. 1) or release pressure from air control box. This releases the tension of the blade on the belt.
- **2. Remove the worn blade.** Remove one blade pin and remove the blade from the pole (Fig. 2). Clean all fugitive material from the pole.

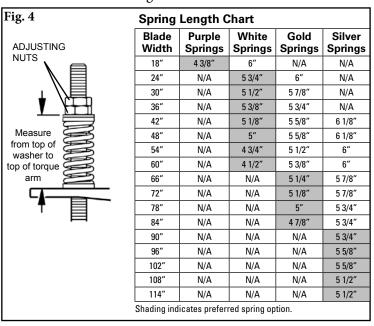
NOTE: If blade is hard to remove use a screwdriver or hammer to loosen it and then remove.

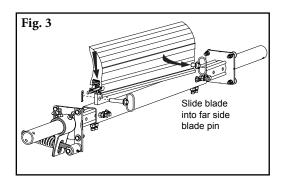




- **3. Install the new blade.** Slide the new blade onto the pole, locking it into the far blade pin, then reinstall the removed blade pin, washer and clip (Fig. 3).
- **4. Reset the correct blade tension.** Refer to the charts for the spring length or PSI required for the belt width. For QMT lightly 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).







Pressure Chart

Blade Width	PSI*
18"	5#
24"	6#
32"	8#
36"	9#
42"	11#
48"	13#
54"	14#
60"	16#
66"	17#
72"	19#
78"	21#
84"	22#
90"	24#
96"	25#
102"	27#
108"	28#
114"	30#

*PSI setting is based on the belt width.

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.

6.5 Maintenance Log

Conveyor Name/No		
Date:	Work done by:	Service Quote #
		Service Quote #
Date:	Work done by:	Service Quote #
		Service Quote #
		Service Quote #
,		
	Work done by:	Service Quote #
		Service Quote #
·		

6.6 Cleaner Maintenance Checklist Site: _____ Inspected by: _____ Date: ____ Mineline Belt Cleaner: _____ Serial Number: ___ Blade Width: Belt -6" Belt -12" Belt -18" Belt -24" Belt -30" Belt -36" -150mm -600mm -450mm -600mm -750mm -900mm **Beltline Information:** Beltline Number: Belt Condition: Belt Width: 24" 30" 36" 42" 48" 54" 60" 72" 84" 96" 108" 120" 600mm 750mm 900mm 1050mm 1200mm 1350mm 1500mm 1800mm 2100mm 2400mm 2700mm 3000mm Head Pulley Diameter (Belt & Lagging): Belt Speed____fpm Belt Thickness:__ Belt Splice _____ 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 Distance from wear line: LEFT MIDDLE RIGHT Blade condition: Good Grooved Smiled Not contacting belt Damaged Measurement of spring: Required Currently Yes No Was Cleaner Adjusted: Good Bent Worn Pole Condition: Lagging: Slide 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: | | Performance: Other Comments:

Section 7 - Troubleshooting

Problem	Possible Cause	Possible Solutions		
	Cleaner under-tensioned	Adjust to correct tension - see chart		
Poor Cleaning	Cleaner over-tensioned	Adjust to correct tension - see chart		
Performance	Cleaner installed in wrong location	Verify "C" dimension, relocate to correct dimension		
	Cleaner blade worn or damaged	Replace cleaner blade		
	Tension on cleaner too high/low	Adjust to correct tension - see chart		
	Cleaner not located correctly	Check cleaner location for correct dimensions		
Rapid Blade Wear	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	Blade wider than material path	Replace blade with width to match material path		
(smile effect)	Tension on cleaner too high/low	Adjust to correct tension - see chart		
	Mechanical splice damaging blade	Repair, skive or replace splice		
Unusual wear or	Belt damaged or ripped	Repair or replace belt		
damage to blade	Cleaner not correctly located	Verify "C" dimension, relocate to correct dimension		
	Damage to pulley or pulley lagging	Repair or replace pulley		
	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		
Vibration or noise	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 tension not set correctly	Ensure correct tension/increase tension slightly		
Cleaner being pushed away from pulley	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		

8.1 Specs and Guidelines - MMP

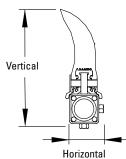
Pole Length Specifications*

Cleaner Size			Overall ength	Center Pole Length		Maximum Conveyor Span	
in.	mm	in.	mm	in.	mm	in.	mm
24	600	78	1950	24	600	66	1650
30	750	84	2100	30	750	72	1800
36	900	90	2250	36	900	78	1950
42	1050	96	2400	42	1050	84	2100
48	1200	102	2550	48	1200	90	2250
54	1350	108	2700	54	1350	96	2400
60	1500	114	2850	60	1500	102	2550
72	1800	126	3150	72	1800	114	2850
84	2100	138	3450	84	2100	126	3150
96	2400	150	3750	96	2400	138	3450
108	2700	162	4050	108	2700	150	3750
120	3000	174	4350	120	3000	162	4050

^{*} For special extra long pole length requirements a Pole Extender Kit (#76024) is available that provides 30" (750mm) of extended pole length.

Clearance Guidelines for Installation

-	ontal Required	Vertical Clearance Required			
in.	mm	in.	mm		
4	100	13	325		



Top of washer to top of torque arm

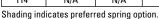
Horizontal Pressure Chart

Blade Width	PSI*				
18"	5#				
24"	6#				
32"	8#				
36"	9#				
42"	11#				
48"	13#				
54"	14#				
60"	16#				
66"	17#				
72″	19#				
78"	21#				
84"	22#				
90"	24#				
96"	25#				
102"	27#				
108"	28#				
114"	30#				
*PCI cotting ic hace	d on the				

*PSI setting is based on the belt width.

Spring Length Chart

909				
Blade Width	Purple Springs			Silver Springs
18"	4 3/8"	6"	N/A	N/A
24"	N/A	5 3/4"	6"	N/A
30"	N/A	5 1/2"	5 7/8"	N/A
36"	N/A	5 3/8"	5 3/4"	N/A
42"	N/A	5 1/8"	5 5/8"	6 1/8"
48"	N/A	5"	5 5/8"	6 1/8"
54"	N/A	4 3/4"	5 1/2"	6"
60"	N/A	4 1/2"	5 3/8"	6"
66"	N/A	N/A	5 1/4"	5 7/8"
72"	N/A	N/A	5 1/8"	5 7/8"
78"	N/A	N/A	5"	5 3/4"
84"	N/A	N/A	4 7/8"	5 3/4"
90"	N/A	N/A	N/A	5 3/4"
96"	N/A	N/A	N/A	5 5/8"
102"	N/A	N/A	N/A	5 5/8"
108"	N/A	N/A	N/A	5 1/2"
114"	N/A	N/A	N/A	5 1/2"



Specifications:

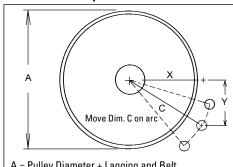
- Maximum Belt Speed......1000 FPM (5M/sec)
- Temperature Rating.....-30°F to 180°F (-35°C to 82°C)
- Minimum Pulley Diameter......16" (400mm)
- Usable Blade Wear Length......6" (150mm)
- Blade......Urethane (proprietary blend for abrasion resistance and long wear)
- Available for Belt Widths......24" to 120" (600 to 3000mm).

 Other sizes available upon request.
- CEMA Cleaner Rating......Class 4

* Onveyor Span Pole Length

*Each pole size can be used with a blade size matched to the belt's material path (ranging from belt width -6" to belt width -36" in 6" increments). Available down to 18" blade width

Pole Location Specs



A = Pulley Diameter + Lagging and Belt C = Critical Spec to move location if necessary

Pole Location Chart

Α	X	Υ	С
16"	8 1/8	12	14 1/2
17"	8 3/4	12	14 7/8
18"	9 1/4	12	15 1/8
19"	9 3/4	12	15 1/2
20"	10 3/8	12	15 7/8
21"	11	12	16 1/4
22"	11 1/2	12	16 5/8
23"	12	12	17
24"	12 5/8	12	17 3/8
25"	13 1/8	12	17 3/4
26"	13 5/8	12	18 1/8
27"	14 1/8	12	18 1/2
28"	14 5/8	12	18 7/8
29"	15 1/4	12	19 3/8
30"	15 5/8	12	19 3/4
31"	16 1/8	12	20 1/8
32"	16 3/4	12	20 5/8
33"	17 1/4	12	21
34"	17 3/4	12	21 3/8
35"	18 1/4	12	21 7/8
36"	18 3/4	12	22 1/4
37"	19 3/8	12	22 3/4
38"	19 3/4	12	23 1/8
39"	20 3/8	12	23 5/8
40"	20 3/4	12	24
41"	21 3/8	12	24 1/2
42"	21 7/8	12	25
43"	22 1/2	12	25 1/2
44"	23 1/8	12	26
45"	23 5/8	12	26 1/2
46"	24 1/8	12	27
47"	24 3/4	12	27 1/2
48"	25 1/4	12	28



8.1 Specs and Guidelines - MMP UG

Pole Length Specifications*

Cleaner Size			Overall ength		r Pole	Maximum Conveyor Span		
in.	mm	in.	mm	in.	mm	in.	mm	
48	1200	144	3600	54	1350	132	3300	
54	1350	150	3750	60	1500	138	3450	
60	1500	156	3900	66	1650	144	3600	
72	1800	168	4200	78	1950	156	3900	
84	2100	180	4500	90	2250	168	4200	
96	2400	192	4800	102	2550	180	4500	
108	2700	204	5100	114	2850	192	4800	
120	3000	216	4350	126	3150	204	5100	

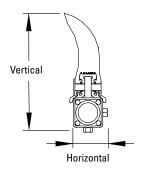
^{*} For special extra long pole length requirements a Pole Extender Kit (#76024) is available that provides 30" (750mm) of extended pole length. Pole diameter 2-7/8" (73mm)

Max Conveyor Span Pole Length

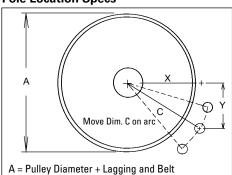
*Each pole size can be used with a blade size either belt width - 6", BW -12", BW -18", BW -24", BW -30", BW -36"

Clearance Guidelines for Installation

	Horizontal Clearance Required		tical Required
in.	mm	in.	mm
4	100	13	325



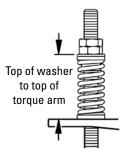
Pole Location Specs



C = Critical Spec to move location if necessary

Spring Length Chart

Blade Width	Purple Springs	White Springs	Gold Springs	Silver Springs
18"	4 3/8"	6"	N/A	N/A
24"	N/A	5 3/4"	6"	N/A
30"	N/A	5 1/2"	5 7/8"	N/A
36"	N/A	5 3/8"	5 3/4"	N/A
42"	N/A	5 1/8"	5 5/8"	6 1/8"
48"	N/A	5"	5 5/8"	6 1/8"
54"	N/A	4 3/4"	5 1/2"	6"
60"	N/A	4 1/2"	5 3/8"	6"
66"	N/A	N/A	5 1/4"	5 7/8"
72"	N/A	N/A	5 1/8"	5 7/8"
78"	N/A	N/A	5"	5 3/4"
84"	N/A	N/A	4 7/8"	5 3/4"
90"	N/A	N/A	N/A	5 3/4"
96"	N/A	N/A	N/A	5 5/8"
102"	N/A	N/A	N/A	5 5/8"
108"	N/A	N/A	N/A	5 1/2"
114"	N/A	N/A	N/A	5 1/2"
Shading ind	icates preferi	ed spring op	tion.	



Pressure Chart

Blade Width	PSI*
18"	5#
24"	6#
32"	8#
36"	9#
42"	11#
48"	13#
54"	14#
60"	16#
66"	17#
72″	19#
78"	21#
84"	22#
90"	24#
96"	25#
102"	27#
108"	28#
114"	30#

24"	6#
32"	8#
36"	9#
42"	11#
48"	13#
54"	14#
60"	16#
66"	17#
72"	19#
78"	21#
84"	22#
90"	24#
96"	25#
102"	27#
108"	28#
114"	30#
DCI+-::	al a sa Alasa

*PSI setting is based on the belt width.

Specifications:

•	Maximum	Belt Sp	peed		1000	FPM	(5M/s	ec)
---	---------	---------	------	--	------	-----	-------	-----

Temperature Rating.....-30°F to 180°F (-35°C to 82°C)

Pole Location Chart

Α	X	Υ	С
16"	8 1/8	12	14 1/2
17"	8 3/4	12	14 7/8
18"	9 1/4	12	15 1/8
19"	9 3/4	12	15 1/2
20"	10 3/8	12	15 7/8
21"	11	12	16 1/4
22"	11 1/2	12	16 5/8
23"	12	12	17
24"	12 5/8	12	17 3/8
25"	13 1/8	12	17 3/4
26"	13 5/8	12	18 1/8
27"	14 1/8	12	18 1/2
28"	14 5/8	12	18 7/8
29"	15 1/4	12	19 3/8
30"	15 5/8	12	19 3/4
31"	16 1/8	12	20 1/8
32"	16 3/4	12	20 5/8
33"	17 1/4	12	21
34"	17 3/4	12	21 3/8
35"	18 1/4	12	21 7/8
36"	18 3/4	12	22 1/4
37"	19 3/8	12	22 3/4
38"	19 3/4	12	23 1/8
39"	20 3/8	12	23 5/8
40"	20 3/4	12	24
41"	21 3/8	12	24 1/2
42"	21 7/8	12	25
43"	22 1/2	12	25 1/2
44"	23 1/8	12	26
45"	23 5/8	12	26 1/2
46"	24 1/8	12	27
47"	24 3/4	12	27 1/2
48"	25 1/4	12	28

Minimum Pulley Diameter...... 16" (400mm)

Usable Blade Wear Length......6" (150mm)

abrasion resistance and long wear)

Available for Belt Widths48" to 120" (1200 to 3000mm).

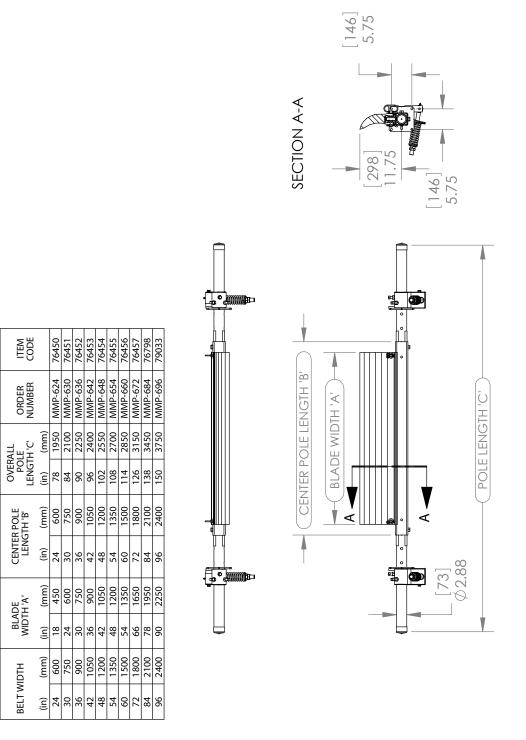
Other sizes available upon request.

CEMA Cleaner RatingClass 4

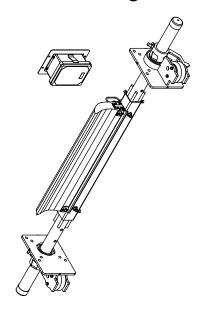
MMP PRECLEANER MINUS 6" (50mm)

SPECIFICATIONS

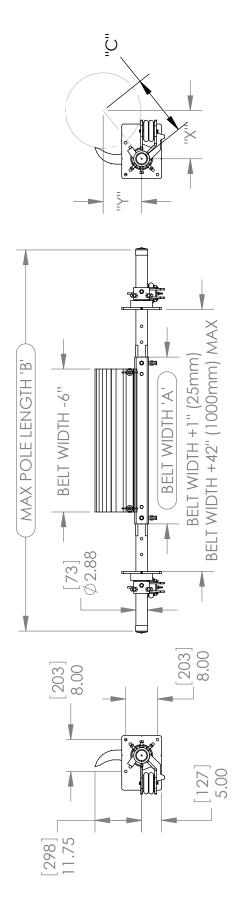
8.2 CAD Drawing – MMP with QMT



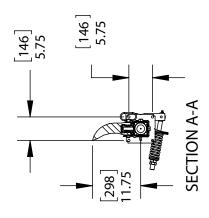
8.2 CAD Drawing — MMP with PAT



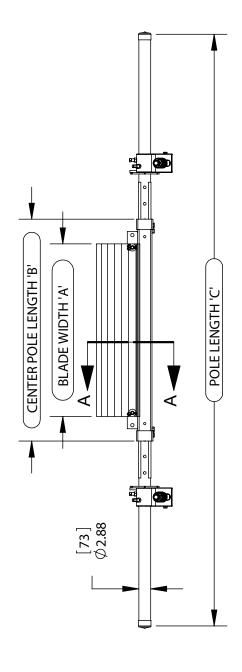
ABER ADE	ITEM	CODE	76485	76486	76487	76488	76489	76490	76491	76493	76997	77048	69806	90361
ITEM NUMBER TRB BLADE	ORDER	NUMBER	TRB18	TRB24	TRB30	TRB36	TRB42	TRB48	TRB54	TRB66	TRB78	TRB90	TRB102	TRB114
MBER POLE	ITEM	CODE	76458	76459	76460	76461	76462	76463	76464	76465	76808	77722	90326	90327
ITEM NUMBER CENTER POLE	ORDER	NUMBER	MMPCP24	MMPCP30	MMPCP36	MMPCP42	MMPCP48	MMPCP54	MMPCP60	MMPCP72	MMPCP84	MMPCP96	MMPCP108	MMPCP120
CLEANER	ITEM	CODE	78706	78707	78708	78709	78710	78711	78712	78713	78714	79037	68806	90390
MMP PAT PRECLEANER	ORDER	NUMBER	MMP-624P	MMP-630P	MMP-636P	MMP-642P	MMP-648P	MMP-654P	MMP-660P	MMP-672P	MMP-684P	MMP-696P	MMP-6108P	MMP-6120P
	MAX POLE ENGTH 'B'	(mm)	1950	2100	2250	2400	2550	2700	2850	3150	3450	3750	4100	4400
SPECIFICATION	MAX	(in)	78	84	90	96	102	108	114	126	138	150	162	174
SPECIF	BELT WIDTH 'A'	(mm)	009	092	006	1050	1200	1350	1500	1800	2100	2400	2700	3000
	BELT W	(in)	24	30	36	42	48	54	09	72	84	96	108	120



8.2 CAD Drawing — MMP UG with QMT

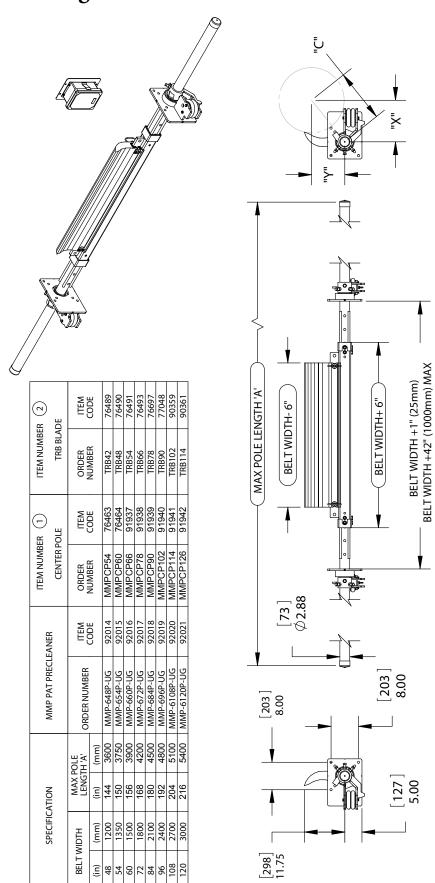


						_	_	ı	
ER 1 R POLE	ITEM	76463	76464	91937	91938	91939	91940	91941	91942
ITEM NUMBER 1 MMP CENTER POLE	ORDER	MMPCP54	MMPCP60	MMPCP66	MMPCP78	MMPCP90	MMPCP102	MMPCP114	MMPCP126
EANER 0mm)	ITEM	91943	91944	91945	91946	91947	91948	91949	91950
MMP PRECLEANER MINUS 6" (50mm)	ORDER NUMBER	MMP-648-UG	MMP-654-UG	MMP-660-UG	MMP-672-UG	MMP-684-UG	5N-969-AWW	5100 MMP-6108-UG	5400 MMP-6120-UG
	OVERALL POLE LENGTH 'C'	3600	3750	3900	4200	4500	4800	5100	5400
	OVE PC LENG (in)	144	150	156	168	180	192	204	216
S	CENTER POLE ENGTH 'B'	1350	1500	1650	1950	2250	2550	2850	3150
CATION	CEN PO LENG (in)	54	09	99	78	06	102	114	126
SPECIFICATIONS	BLADE VIDTH 'A' (mm)	1050	1200	1350	1650	1950	2250	2550	2850
S	BLA WIDT (in)	42	48	54	99	82	06	102	114
	BELT WIDTH (in) (mm)	1200	1350	1500	1800	2100	2400	2700	3000
	BELT \ (in)	48	54	09	72	84	96	108	120



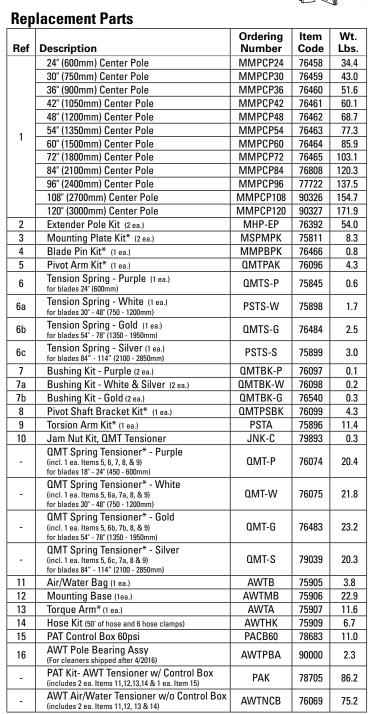


8.2 CAD Drawing – MMP UG with PAT

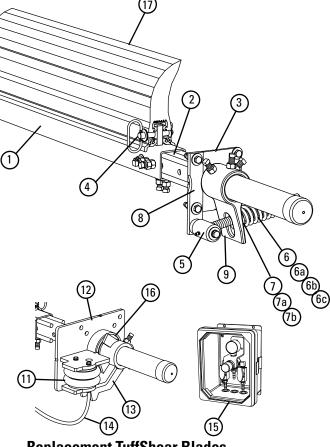


Section 9 - Replacement Parts

9.1 Replacement Parts List - MMP



*Hardware Included Lead Time: 1 working day



Replacement TuffShear Blades

Ref	Blade Width		Ordering	Item	Wt.
nei	in.	mm	Number	Code	Lbs.
	18	450	TRB18	76485	21.0
Γ	24	600	TRB24	76486	28.0
	30	750	TRB30	76487	35.0
	36	900	TRB36	76488	42.0
	42	1050	TRB42	76489	49.0
	48	1200	TRB48	76490	56.0
	54	1350	TRB54	76491	63.0
	60	1500	TRB60	76492	70.0
17	66	1650	TRB66	76493	77.0
	72	1800	TRB72	76494	84.0
	78	1950	TRB78	76697	91.0
	84	2100	TRB84	77047	98.0
	90	2250	TRB90	77048	105.0
Γ	96	2400	TRB96	90358	112.0
Γ	102	2550	TRB102	90359	119.0
	108	2700	TRB108	90360	126.0
Γ	114	2850	TRB114	90361	133.0

Order blade width for your belt width's material path: Belt Width Minus 6" (150mm), BW -12" (300mm), BW -18" (450mm), BW -24" (600mm), BW -30" (750mm), or BW -36" (900mm)

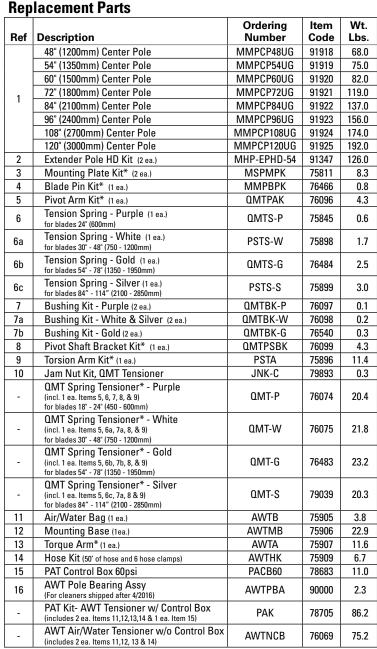
Lead Time: 1 working day

Spring Tensioner Selection Chart

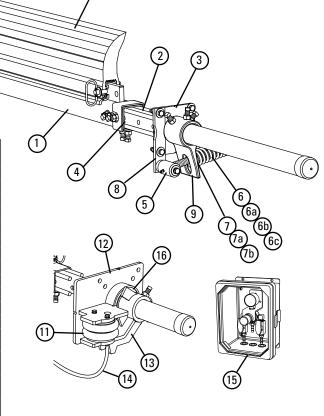
CLEANER BLADE WIDTH	76074 QMT-P	76075 QMT-W	76483 QMT-G	79039 QMT-S
TuffShear 18" - 24" (450-600mm)	Х			
TuffShear 30" - 48" (750—1200mm)		Х		
TuffShear 54" - 78" (1350—1950mm)			Х	
TuffShear 84" - 114" (2100—2850mm)				Х

Section 9 - Replacement Parts

9.2 Replacement Parts List - MMP UG



*Hardware Included Lead Time: 1 working day



Replacement TuffShear Blades

Ref	Blade	Width	Ordering	Item	Wt.
nei	in.	mm	Number	Code	Lbs.
	18	450	TRB18	76485	21.0
	24	600	TRB24	76486	28.0
	30	750	TRB30	76487	35.0
	36	900	TRB36	76488	42.0
	42	1050	TRB42	76489	49.0
	48	1200	TRB48	76490	56.0
	54	1350	TRB54	76491	63.0
	60	1500	TRB60	76492	70.0
17	66	1650	TRB66	76493	77.0
	72	1800	TRB72	76494	84.0
	78	1950	TRB78	76697	91.0
	84	2100	TRB84	77047	98.0
	90	2250	TRB90	77048	105.0
	96	2400	TRB96	90358	112.0
	102	2550	TRB102	90359	119.0
	108	2700	TRB108	90360	126.0
	114	2850	TRB114	90361	133.0

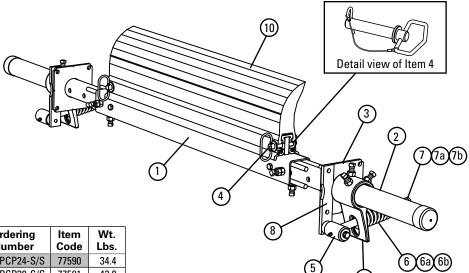
Order blade width for your belt width's material path: Belt Width Minus 6" (150mm), BW -12" (300mm), BW -18" (450mm), BW -24" (600mm), BW -30" (750mm), or BW -36" (900mm) Lead Time: 1 working day

Spring Tensioner Selection Chart

CLEANER BLADE WIDTH	76074 QMT-P	76075 QMT-W	76483 QMT-G	79039 QMT-S
TuffShear 18" - 24" (450—600mm)	Х			
TuffShear 30" - 48" (750—1200mm)		Х		
TuffShear 54" - 78" (1350—1950mm)			Х	
TuffShear 84" - 114" (2100—2850mm)				Х

Section 9 - Replacement Parts (cont.)

9.3 Replacement Parts List - Stainless Steel



Replacement Parts

		Ordering	Item	Wt.
Ref	Description	Number	Code	Lbs.
	24" (600mm) SS Center Pole	MMPCP24-S/S	77590	34.4
	30" (750mm) SS Center Pole	MMPCP30-S/S	77591	43.0
	36" (900mm) SS Center Pole	MMPCP36-S/S	77592	51.6
	42" (1050mm) SS Center Pole	MMPCP42-S/S	77593	60.1
	48" (1200mm) SS Center Pole	MMPCP48-S/S	77594	68.7
1	54" (1350mm) SS Center Pole	MMPCP54-S/S	77595	77.3
	60" (1500mm) SS Center Pole	MMPCP60-S/S	77596	85.9
	72" (1800mm) SS Center Pole	MMPCP72-S/S	77597	103.1
	84" (2100mm) SS Center Pole	MMPCP84-S/S	77598	120.3
	96" (2400mm) SS Center Pole	MMPCP96-S/S	78686	137.5
2	SS Extender Pole Kit (2 ea.)	MHP-EP-S/S	77599	54.0
3	SS Mounting Plate Kit* (2 ea.)	MSPMPK-S/S	77582	8.3
4	SS Blade Pin Kit* (1 ea.)	MMPBPK-S/S	77600	0.8
5	SS Pivot Arm Kit* (1 ea.)	QMTPAK-S/S	77587	4.3
6	SS Tension Spring - Purple (1 ea.) for blades 24" (600mm)	QMTS-P-S/S	77450	0.6
6a	SS Tension Spring - White (1 ea.) for blades 30" - 48" (750 - 1200mm)	QMTS-W-S/S	77451	1.7
6b	SS Tension Spring - Gold (1 ea.) for blades 54" - 78" (1350 - 1950mm)	QMTS-G-S/S	77452	2.5
6c	SS Tension Spring - Silver (1 ea.) for blades 84"-90" (2100-2250mm)	QMTS-S-S/S	79056	3.1
7	Bushing Kit - Purple (2 ea.)	QMTBK-P	76097	0.1
7a	Bushing Kit - White and Silver (2 ea.)	QMTBK-W	76098	0.2
7b	Bushing Kit - Gold (2 ea.)	QMTBK-G	76540	0.3
8	SS Pivot Shaft Bracket Kit* (1 ea.)	QMTPSBK-S/S	77588	4.3
9	SS Torsion Arm Kit* (1 ea.)	PSTA-S/S	77442	11.4
-	SS QMT Spring Tensioner* - Purple (incl. 1 ea. Items 5, 6, 7, 8, & 9) for blades 18" - 24" (450 - 600mm)	QMT-P-S/S	77584	20.4
-	SS QMT Spring Tensioner* - White (incl. 1 ea. Items 5, 6a, 7a, 8, & 9) for blades 30" - 48" (750 - 1200mm)	QMT-W-S/S	77585	21.8
-	SS QMT Spring Tensioner* - Gold (incl. 1 ea. Items 5, 6b, 7b, 8, & 9) for blades 54" - 78" (1350 - 1800mm)	QMT-G-S/S	77586	23.2
-	SS QMT Spring Tensioner* - Silver (incl. 1 ea. Items 5, 6c, 7a, 8 & 9) for blades 84"-90" (2100-2250mm)	QMT-S-S/S	79059	24.6

*Hardware Included Lead Time: 1 working day

> Shaded items are made to order. Lead time: 3 weeks

Replacement TuffShear Blades

Ref	Blade Width		Ordering	Item	Wt.
nei	in.	mm	Number	Code	Lbs.
	18	450	TRB18	76485	21.0
	24	600	TRB24	76486	28.0
	30	750	TRB30	76487	35.0
	36	900	TRB36	76488	42.0
	42	1050	TRB42	76489	49.0
	48	1200	TRB48	76490	56.0
10	54	1350	TRB54	76491	63.0
	60	1500	TRB60	76492	70.0
	66	1650	TRB66	76493	77.0
	72	1800	TRB72	76494	84.0
	78	1950	TRB78	76697	91.0
	84	2100	TRB84	77047	98.0
	90	2250	TRB90	77048	105.0

Order blade width for your belt width's material path: Belt Width Minus 6" (150mm), Belt Width Minus 12" (300mm) or Belt Width Minus 18" (450mm). Lead Time: 1 working day

Spring Tensioner Selection Chart

CLEANER BLADE WIDTH	77584 QMT-P-S/S	77585 QMT-W-S/S	77586 QMT-G-S/S	79059 QMT-S-S/S
TuffShear 18" - 24" (450 - 600mm)	Х			
TuffShear 30" - 48" (750 - 1200mm)		Х		
TuffShear 54" - 78" (1350 - 1950mm)			Х	
TuffShear 84"-90" (2100-2250mm)				Х

For best results use Flexco Genuine Replacement Blades and Parts.



Section 10 - Other Flexco Conveyor Products

Flexco provides many conveyor products that help your conveyors to run more efficiently and safely. These components solve typical conveyor problems and improve productivity. Here is a quick overview on just a few of them:

EZP1 Precleaner



- Patented ConShear[™] blade renews its cleaning edge as it wears
- • Visual Tension Check $^{\!\scriptscriptstyle\mathsf{M}}$ for optimal blade tensioning and simple retensioning
- Quick and easy one-pin blade replacement Material Path Option™ for optimal cleaning and reduced maintenance

EZS2 Secondary Cleaner



- Long-wearing tungsten carbide blades for superior cleaning efficiency
- Patented FormFlex[™] cushions independently tension each blade to the belt for consistent, constant cleaning power
- Easy to install, simple to service
- Works with Flexco mechanical belt splices

Flexco Specialty Belt Cleaners



- "Limited space" cleaners for tight conveyor applications
- High Temp cleaners for severe, high heat applications
- A rubber fingered cleaner for chevron and raised rib belts
- Multiple cleaner styles in stainless steel for corrosive applications

DRX™ Impact Beds



- Exclusive Velocity Reduction Technology[™] to better protect the belt
- Slide-Out Service™ gives direct access to all impact bars for change-out
- Impact bar supports for longer bar life
- 4 models to custom fit to the application

PT Max™ Belt Trainer



- Patented "pivot & tilt" design for superior training action
- Dual sensor rollers on each side to minimize belt damage
- Pivot point guaranteed not to freeze or seize up
- Available for topside and return side belts

Belt Plows



- A belt cleaner for the tail pulley
- Exclusive blade design quickly spirals debris off the belt
- Economical and easy to service
- Available in vee or diagonal models



