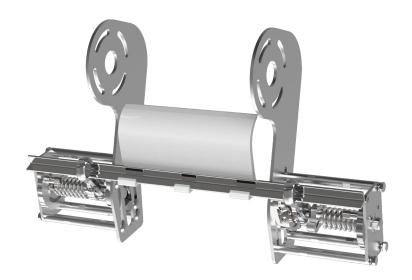
FGP-C Food Grade Primary Cleaner for Cleated Belts

Installation, Operation & Maintenance Manual



Patent pending: www.flexco.com/patents



Food Grade Primary Cleaner for Cleated Belts

Ordering Number:	
Serial Number:	
Purchase Date:	
Purchased From:	
Installation Date:	

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 Introduction

We at Flexco are very pleased that you have selected the Food Grade Primary Cleaner for Cleated Belts 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 here be properly understood and implemented. This manual will provide safety precautions, installation instructions, maintenance procedures and troubleshooting tips.

If you have any questions or problems that are not covered in this manual, please visit our web site:

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 simple as possible, it does require correct installation and regular inspections and adjustments to maintain top performance.

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 costs
- Increased service life for the belt cleaner and other conveyor components

1.3 Service Option

The FGP-C Food Grade Primary Cleaner for Cleated Belts 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

2.1 Stationary Conveyors

Before installing and operating the FGP-C 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.

The following activities are performed on stationary conveyors:

• Installation

• Tension adjustments

- Blade replacement
- Cleaning
- Repairs

A DANGER

It is imperative that OSHA 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
- · Hearing protection

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

Every belt cleaner is an in-running nip hazard. Never

touch or prod an operating cleaner. Cleaner hazards

can 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 CAUTION

DANGER

During normal operation this product has the potential to draw in clothing or hair between the blade and belt. This product presents a potential crush hazard between the bracket and swing arm, and between the blade and belt.

A WARNING

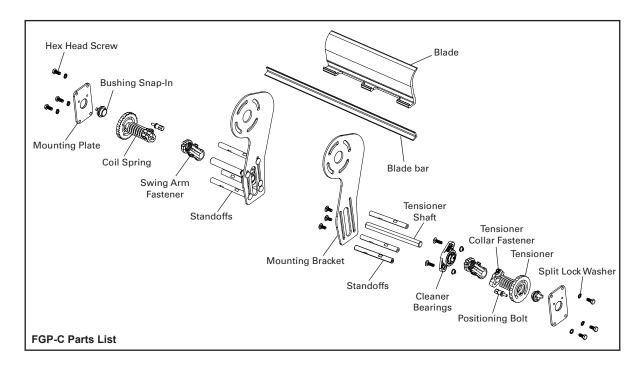
Belt cleaners can become projectile hazards. Stay as far from the cleaner as practical and use safety eyewear and headgear. Missiles can inflict serious injury.



Section 3 - Pre-installation Checks and Options

3.1 Checklist

- Check belt for pre-existing damage. Correct as necessary. Do not install on a belt with missing or broken cleats. Verify that cleats are 3" tall or less.
- Review the installation strategy, cleaner system envelope, and conveyor system modifications with the customer prior to proceeding. All system modifications are to be performed by Others, their Millwright, or equivalent personnel.
- Check that the cleaner size is correct for the belt width.
- Check the belt cleaner carton and ensure all parts are included.
- Review the "Tools Needed" list on the top of the installation instructions.
- Inspect the belt and splice(s) for damage (tears, gouges, raised splices, etc.) that may interfere with the cleaner blade.
- Check the conveyor site:
 - Will the cleaner be installed on a chute?
 - Is the installation on an open head pulley requiring mounting structure?
 - Are there obstructions that may require cleaner location adjustments?
- Unpack belt cleaner from packaging
- Verify that correct size cleaner has been ordered
- Verify that all parts are included
- Verify that cleaner bearings are sufficiently greased





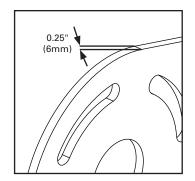
CAUTION: All parts of the Food Grade Primary Cleaner for Cleated Belts must be cleaned and sanitized in compliance with your company's policies and any applicable legal or regulatory requirements prior to installation and use.

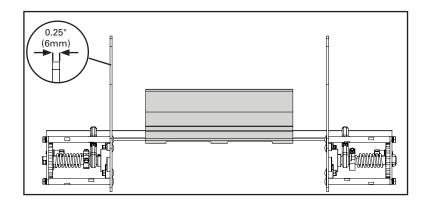
Section 3 - Pre-installation Checks and Options (cont.)

3.2 Conveyor Mounting Structure

The first step in installing your FGP-C Cleaner is to verify that there is adequate structure at the head pulley for mounting the cleaner.

- 1. Verify that accommodation can be made for the ¼" thick Cleaner Mounting Brackets—
 - Head pulley bearing attachment bolts/studs--Assess whether approximately ¼" or greater fastener thread protrudes beyond the nut for each fastener. Greater length will need to be available if spacers are to be used to stand off the mounting bracket from the conveyor frame.
 - Head pulley drive shaft: Assess whether at least ¼" shaft length protrudes past the head pulley bearing on each side. If excess shaft length is not available, a new shaft may be required. Additional shaft length will be required if spacers are to be used to stand off the mounting bracket from the conveyor frame.
- 2. Measure outside structure width where cleaner will be mounted.





NOTE: Only modify bracket or conveyor structure. Do not modify cross section of blade holder bar.



Section 4 - Installation Instructions - FGP-C

4.1 FGP-C Food Grade Primary Cleaner for Cleated Belts Installation Instructions

NOTE: At least two people are required for installation of the FGP-C

CAUTION: Product may be adversely affected by contamination from the use of this belt cleaner. It is the user's responsibility to take the steps necessary to ensure use of product is maintained in accordance with internal Hazard Analysis and Critical Control Points plan (HACCP).

Tools Required

- Tape measure
- 1/2" (13mm) wrench or socket
- 5/8" (16mm) combination wrench
- Ratchet
- 1/2" (13mm) socket
- 11/16" (17mm) socket
- Marking pen or soapstone
- Adjustable wrench
- Food Grade Anti-Seize

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

Pre-Installation

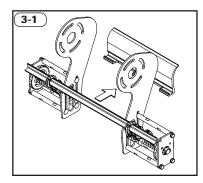
- Unpack belt cleaner from packaging
- · Verify that correct size cleaner has been ordered
- Verify that all parts are included

Section 4 - Installation Instructions - FGP-C

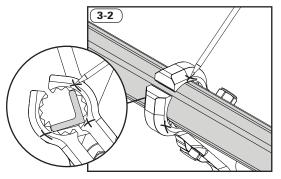
Installation Instructions

- 1 Remove motor/gearbox drive system from conveyor. In cases where Flexco is supporting installation, this step will be performed by Others.
- **2** Remove head pulley bearings.

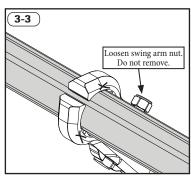
3 Cleaner disassembly prior to installation.



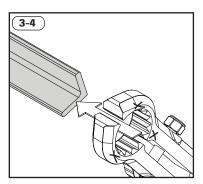
Remove blade.



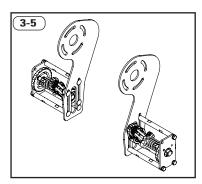
Mark swing arm teeth with blade holder engagement locations. Ensure blade holder marking is on the third slot



Loosen swing arm fasteners (13mm socket) and nut. Do not remove nut.



Slide blade holder bar out of swing arms for both sides. This will disassemble the FGP-C

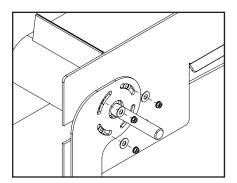


Note: Do not disassemble the bracket assemblies. Only remove blade and blade holder bar.



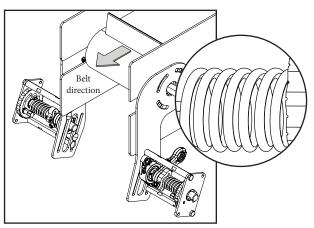
4

If spacers or washers are required between structure and cleaner mount brackets, place them on the outside portion of the pulley bearing mounting bolts.



(5)

Install the bracket assemblies on the appropriate sides of the conveyor, engaging the bearing mounting bolts. The bracket assemblies can also be welded to the conveyor, if desired (mounting plate material 304L).



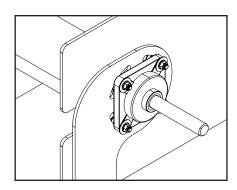
Ensure tensioners will rotate to "constrict" the coil spring when applying torque. As the tensioner rotates, the swing arms should rotate towards the belt.

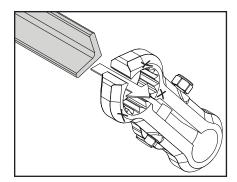
6

Reinstall the head pulley bearings on their fasteners. Apply food grade anti-seize to the fastener threads and install the nuts. The nuts should be snug but allow the cleaner mounting bracket to rotate with minor effort.



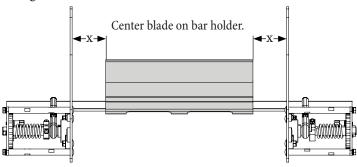
Reinsert the blade holder into both swing arms in the original swing arm teeth locations. Use marks from step 3.





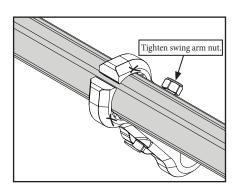
8

Center the blade on the blade holder bar, center the swing arms each side between tensioner collar and the cleaner bearing, and center the blade holder bar on the swing arms.



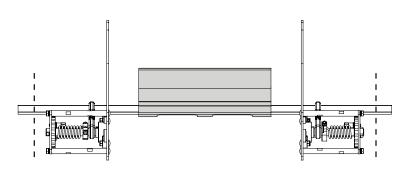
9

Tighten the swing arm nuts on each side (13mm socket). Ensure the blade holder bar is secure in the swing arms and ensure the swing arms are secure on the cleaner shafts each side.



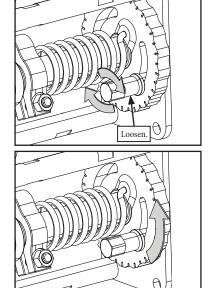
10

OPTIONAL: Evaluate blade holder bar length beyond swing arms. If excessive, cut blade holder bar ½" beyond swing arms, maintaining centered blade position



11

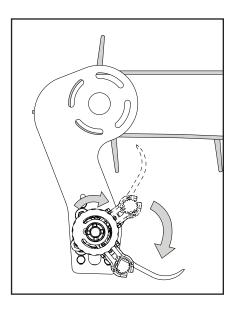
Loosen the tensioner positioning bolts and tensioner collar fasteners on each side. Loosen until tensioner can be rotated.





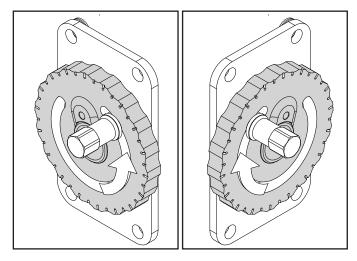
12

Allow the blade to rotate vertically downward or as far as the conveyor equipment will allow



13

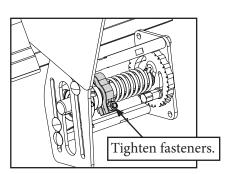
Rotate the tensioners to the "Full Travel" of their adjusting slots as limited by the positioning bolts. Ensure the "open" portion of the tensioner slot will allow the blade to be rotated into the belt contact position.



Complete assembly not shown for clarity.

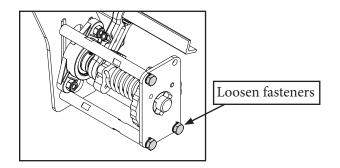
14

Tighten the tensioner collar fasteners. Ensure no slip on the tensioner shafts.



15

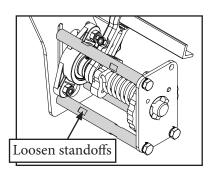
Loosen mounting plate fasteners (17mm socket).



Achieve Proper Blade Position on Belt:

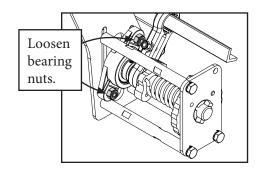
16

Slightly loosen the tensioner standoffs using the wrenching flats on each side (adjustable wrench).



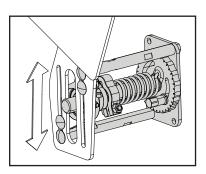
17

Slightly loosen the cleaner main bearing nuts (17mm socket) each side.



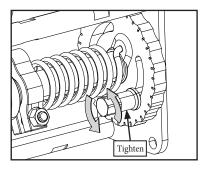
18

The tensioner assemblies (including the tensioner shaft and main bearing) should be allowed to slide with resistance in the mounting bracket slots.



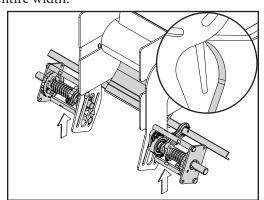
19

Rotate the tensioners to position the blade approximately vertical and secure the tensioner positioning bolts (16mm open end or adjustable wrench). Use caution to avoid overtightening the tensioner positioning bolts.



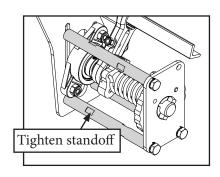
(20)

Slide the tensioner assemblies upward to engage the blade with the conveyor belt as shown. Ensure the blade is in uniform contact with the belt across its entire width.



The blade should make contact with the belt behind the head pulley. Applying tensioner torque will more firmly engage blade/belt contact. **21**

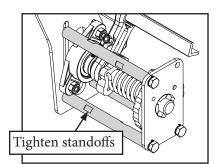
Tighten the tensioner stand-offs by hand to lightly retain the tensioner and blade/belt engagement position.





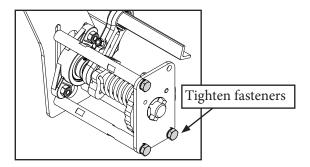
22

Ensure all tensioner stand-offs are level and parallel, then secure (adjustable wrench).



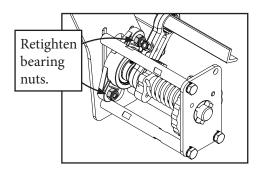
23

Tighten the mounting plate fasteners (17mm socket).



24

Ensure the tensioner shaft is level and parallel to the tensioner stand-offs, then secure the main bearing nuts (17mm socket).



(25)

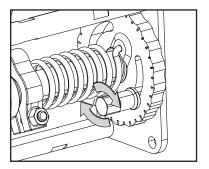
With the tensioner assemblies secured, position the cleaner mounting brackets on the head pulley bearing mounts to achieve final blade / belt engagement. Secure bearing mounting fasteners.

Ensure the following:

- Uniform blade contact with the belt—full blade width.
- Blade cannot rotate forward past the head pulley position.
- Blade is centered between the blade holder bar lateral stops (weld beads).
- Blade is allowed to rotate back to fully clear belt cleats as they engage and disengage.

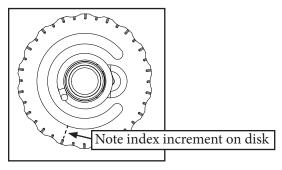
26

Loosen tensioner positioning bolts (16mm open end or adjustable wrench) one tensioner at a time.



27

With the blade engaging the belt, rotate the first tensioner approximately 10° (1 index increment to a maximum of 20°) and tighten the tensioner positioning bolt. Use caution to avoid over-tightening the tensioner positioning bolts. Repeat for the opposite side tensioner.



NOTE: Do not tension more than 30° (3 index increments)

Test blade actuation by hand, exercising caution to avoid pinch points between the blade holder bar and mounting bracket as well as between the blade and the belt.

Finalize the installation via the remaining steps.

- 28. Modify any conveyor chutes, hoppers, bearing / drive trays or other system equipment as necessary. Note that in some instances it may be necessary to perform modifications prior to cleaner installation. All system modifications and final conveyor assembly are to be performed by Others.
- 29. Clean up and/or remove any metal shavings or burrs created during cutting/drilling/modification of any cleaner components, mounting bolt holes, and conveyor structure.
- 30. Train maintenance personnel in blade replacement, cleaning, and tensioning.

NOTE: The FGP-C may cause the belt to locally lift during blade/belt contact.

CAUTION: Do not run the conveyor in reverse. The blade may eject if the conveyor is run in reverse.

CAUTION: It is the responsibility of the user to ensure that the mounting method is in compliance with your company's policies and any applicable legal or regulatory requirements.

NOTE: The FGP-C Food Grade Primary Cleaner for Cleated Belts will come fully assembled. Verify that the out of the box configuration is the right one for your application.

CAUTION: When tensioning a spring you must confirm that you are constricting the spring. Failure to do so will cause premature product failure or reduce product performance.



Section 5 - Pre-Operation Checklist and Testing

5.1 Pre-Op Checklist

- Recheck that all fasteners are tightened properly.
- Check the blade location on the belt.
- Ensure that all installation materials and tools have been removed from the belt and the conveyor area.
- Ensure no debris is left on the conveyor or equipment.

5.2 Test Run the Conveyor

- Run the conveyor for at least 15 minutes and inspect the cleaning performance.
- If performance is inadequate, loosen positioning bolt.
- Rotate tensioner to adjust tension as required for application. Do not over tension the spring.
- Tighten positioning bolt.

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 FGP-C 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 the correct lockout/tagout procedures observed.

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. To ensure optimal cleaner performance, keep blade and bar free of product buildup.

6.2 Routine Visual Inspection (every 2-4 weeks)

A visual inspection of the cleaner and belt can determine:

- 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.

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 is properly locked and tagged out, conduct a physical inspection of the cleaner to perform the following tasks:

- Clean material buildup off of the cleaner blade and bar.
- Closely inspect the blade for wear and any damage. Replace if needed.
- Ensure full blade/belt contact.
- Inspect the cleaner bar for damage.
- Replace any worn or damaged components
- Check the tension of the cleaner blade to the belt. Adjust the tension if necessary. Do not over tension the spring. Rotate tensioner no more than 2 index increments (20 degrees).
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly.



Section 6 - Maintenance (cont.)

6.4 Cleaning Instructions

Remove cleaner blade and sanitize. If blade holder bar is to be removed, mark blade holder bar position in swing arm teeth on both sides.

6.5 Blade Wear Inspection

NOTE: Belt type, belt speed, material being conveyed, installation and other application factors will affect blade wear. Inspect blade for wear. If wear is excessive, replace blade.

6.6 Blade Replacement Instructions

Removal of Cleaning Blade

NOTE: Blade can be removed without release of spring tension

- 1. Blade should snap free from belt cleaner bar. If required, use an adjustable wrench to hold blade holder bar during blade removal.
- 2. Remove blade.

Installation of Cleaning Blade

- 1. Center blade on belt.
- 2. Catch bottom lip of blade on lower front edge of belt cleaner bar.
- 3. Rotate blade on bar until cleaning blade snaps onto bar. If required, use an adjustable wrench to hold blade holder bar during blade installation.
- 4. Rotate blade and bar upwards until blade makes contact with belt
- 5. Test run conveyor and adjust cleaner tension as required.

Section 6 - Maintenance (cont.)

6.7 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: ____



Section 6 - Maintenance (cont.)

6.8 Cleaner Maintenance Checklist

FGP-C Cleaner	r:				Orderi	ng Numbe	er:			
Blade Width:		☐ Belt minus	1" (25 mm)	□ Ma	terial path plus	3" (75 mm)).			
Conveyor Inforn	nation:									
Conveyor Numb	er:		Belt (Condition: _						
Belt Width:	□ 12" (300 mn		□ 24" (600 mm)	□ 30" (750 mm)	□ 36" (900 mm)					
Head Pulley Dia	meter (E	Belt & Lagging).		_						
Belt Speed:	fp	m Belt T	hickness:							
Belt Splice:		_ Con	dition of Spl	ice:	Numbe	r of splice	es:	☐ Skiv	red □ Unskiv	red
Material convey	/ed:									
Days per week i	run:		Hours per	day run:						
Blade Life::										
Date blade insta	alled:		Date blade	e inspected:_		_ Estima	ated blade life:	<u> </u>		
Is blade making	comple	te contact with	belt?		Yes □ N	0				
Blade height:	ı	_eft		/liddle	Right		_			
Blade condition	:	□ Goo	d 🗆	Grooved	☐ Smiled		lot contacting	belt	□ Damaged	
Was Cleaner Ad	djusted:		Yes [□No						
Bar Condition:		□ Good	☐ Bent	□W	orn					
Lagging:		Slide lag	☐ Ceramio	: □ R	ubber 🗆	Other	□ None			
Condition of lag	ging:	□ Go	od 🗆	Bad	□ Other					
Cleaner's Overa	all Perfo	rmance:	(Rate t	he following	1 - 5, 1 = very p	oor - 5 = v	very good)			
Appearance:		Comments:								
Location:		Comments:								
Maintenance:		Comments:								
Performance:		Comments:								
Other Comments	s:									

Section 7 - Troubleshooting

Problem	Possible Cause	Possible Solutions			
	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup			
Poor cleaning	Cleaner under-tensioned	Increase tension incrementally and reevaluate			
performance	Cleaner over-tensioned	Decrease tension incrementally and reevaluate			
	Cleaner blade worn or damaged	Replace cleaner blade			
	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup			
	Cleaner under-tensioned	Increase tension incrementally and reevaluate			
Rapid Blade Wear	Cleaner over-tensioned	Decrease tension incrementally and reevaluate			
	Excessively abrasive material	More frequent blade adjustment and replacement may be necessary			
	Blade wider than material path	Replace blade with width appropriate for material path			
Excessive center wear on blade (smile effect)	Cleaner under-tensioned	Increase tension incrementally and reevaluate			
,	Cleaner over-tensioned	Decrease tension incrementally and reevaluate			
	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup			
Unusual wear, flash or damage to blade	Belt damaged or ripped	Repair or replace belt			
damage to blude	Damage to pulley or pulley lagging	Repair or replace pulley or lagging			
	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup			
	Cleaner under-tensioned	Increase tension incrementally and reevaluate			
Vibration or noise	Cleaner over-tensioned	Decrease tension incrementally and reevaluate			
	Cleaner mounting not secure	Check and tighten all bolts and nuts			
	Material build-up in chute	Remove build-up on cleaner and in chute			
	Excessive build-up on cleaner	Inspect blade, bushings and bar for material buildup			
	Cleaner under-tensioned	Increase tension incrementally and reevaluate			
Cleaner being pushed away from pulley	Cleaner over-tensioned	Decrease tension incrementally and reevaluate			
	Sticky material is overburdening cleaner	Increase tension incrementally and reevaluate			
	Cleaner not set up correctly	Confirm location dimensions are equal on both sides			

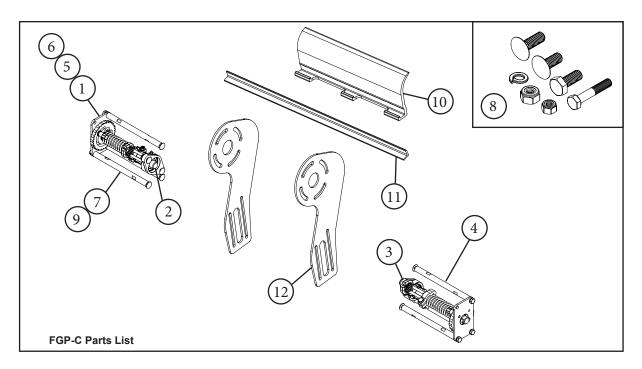
Section 8 - Specifications

Specifications

•	Temperature Range	. UHMW: -20°F to 140°F (-29°C to 60°C)
	Blade Width Range	
•	Blade Material	.Food-grade UHMW or UHMW with Stainless Stee
•	Blade Hardness	.UHMW: 63D Shore Hardness
•	Bar/Mounting Material	.304 Stainless Steel

Section 9 - Replacement Parts

Replacement Parts List



REPLACEMENT PARTS

REF	DESCRIPTION	ORDERING Number	ITEM CODE		
1	Mount Plate-Blank	FGP-C-MNT-PLT-BLANK	113627		
2	Tensioner Shaft	FGP-C-SHAFT-1X8.25-SS	113714		
3	Bearing	FGP-C-BRG-MNT-1IN-SHAFT-2B	113793		
4	Tensioner Kit	FGP-C-KIT-TENSIONER	115278		
5	Mount Plate-Non-EU	FGP-C-MNT-PLT-NONEU	115427		
6	Mount Plate-EU	FGP-C-MNT-PLT-EU	115428		
7	7.5" Standoff	FGP-C-STANDOFF-7.5IN-SS	115665		
8	Hardware Kit	FGP-C-REPL-HW	116660		
9	10" Standoff	FGP-C-STANDOFF-10IN-SS	118230		
10	Replacement Blade	Order Dependent, contact Customer Service			
11	Blade Bar	Order Dependent, contact Customer Service			
12	Mounting Bracket	Bracket Order Dependent, contact Customer Service			

