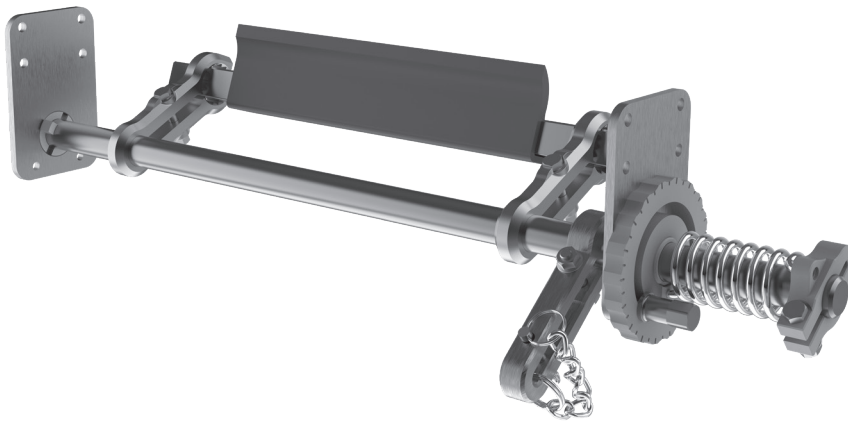


FGS Food Grade Secondary Cleaner

Installation, Operation & Maintenance Manual



EC1935/2004

Patents: www.flexco.com/patents

FGS Food Grade Secondary Cleaner

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 FGS Secondary 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 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 FGS Secondary Cleaner 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 Flexco Customer Service or your Flexco Distributor.

Section 2 - Safety Considerations and Precautions

2.1 Stationary Conveyors

Before installing and operating the FGS Secondary Cleaner, 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
- Blade replacement
- Repairs
- Tension adjustments
- Cleaning

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

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

DANGER

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

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.

WARNING

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

WARNING

- Cleaner installation on wide conveyors require two persons.
- Tensioned cleaners possess stored energy, use caution when servicing.
- Exercise caution when detensioning blade. Blade will rotate downward due to gravity.
- Mounting plates and "L" shape bar create pinch points.
- Ensure shaft is fully supported when servicing.
- Ensure shaft bushings are installed.

Section 3 - Pre-installation Checks and Options

3.1 Checklist

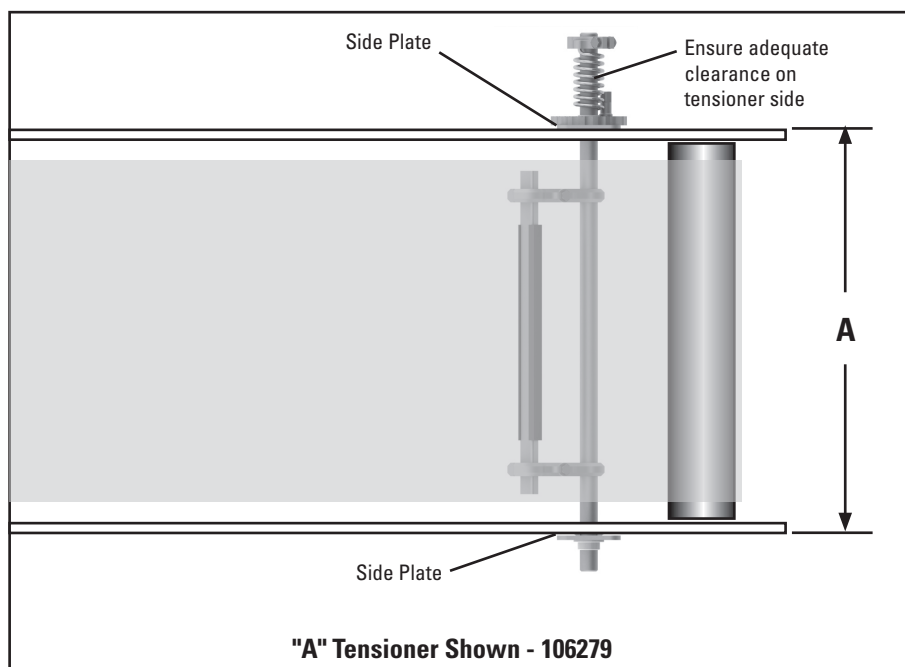
- Check that the cleaner size is correct for the beltline width.
- Check the belt cleaner carton and make sure all the parts are included.
- Review the “Tools Needed” list on the top of the installation instructions.
- Inspect the belt and splice(s) for damage (tears, gouges, raised splices, etc.) that may interfere with the cleaner blade.
- Secondary mounted belt cleaners are not generally recommended for use on impression cover, textured, or cleated belts.
- Check the conveyor site:
 - Are there obstructions that may require cleaner location adjustments?

⚠ Caution: All parts of the FGS Food Grade Secondary Cleaner must be cleaned and sanitized in compliance with your company’s policies and any applicable legal or regulatory requirements prior to installation and use.

3.2 Conveyor Mounting Structure

The first step in installing your FGS Food Grade Secondary Cleaner is to verify that there is adequate structure for mounting the cleaner.

1. Measure conveyor width (A), including to the outside of the structure (Fig. 1).
2. Locate the cleaner in the area of the conveyor belt where it will operate.



3. Ensure there is enough clearance on the torsion spring side of the cleaner so conveyor components do not interfere with the cleaner operation.
4. Add the required amount of structure to the conveyor so that it extends completely inside the width of the cleaner so at least two fasteners per side can be installed on the cleaner side plates.
5. Proceed to Section 4 – Installation Instructions.

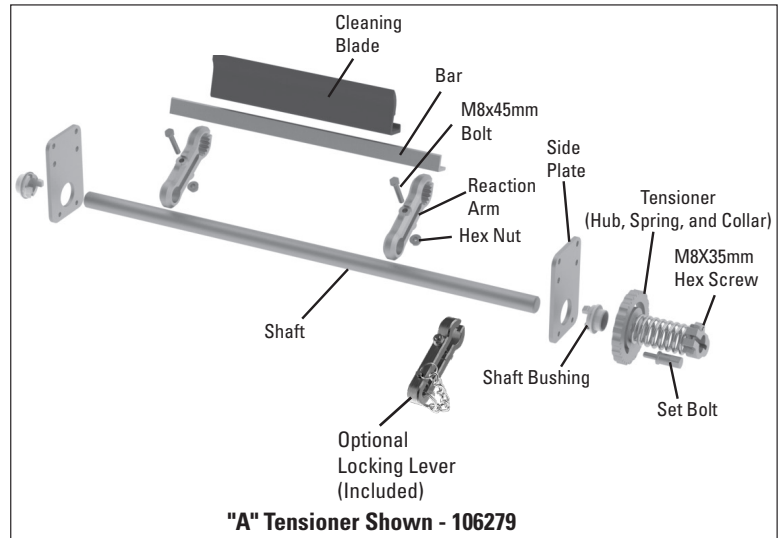
Section 4 - Installation Instructions - FGS

4.1 FGS Food Grade Secondary Cleaner Installation Instructions

⚠ 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 Needed

- Tape measure
- 13mm (1/2") combination wrench
- Ratchet with 13mm (1/2") socket
- Marking pen or soapstone
- Adjustable wrench
- 8mm (5/16") drill bit
- Food Grade Antisieze
- Welder (optional)



⚠ DANGER: PHYSICALLY LOCKOUT AND TAG THE CONVEYOR AT THE POWER SOURCE BEFORE YOU BEGIN CLEANER INSTALLATION.

Pre-Installation

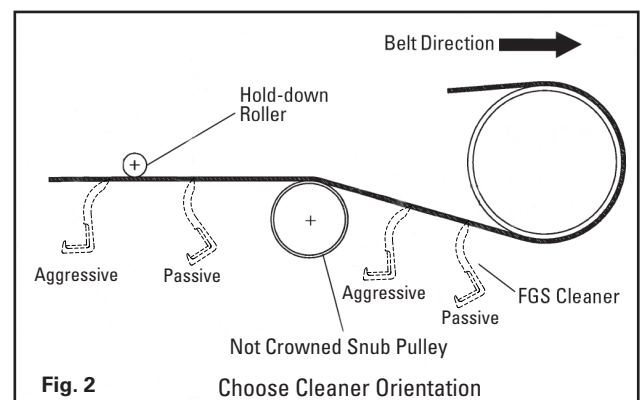
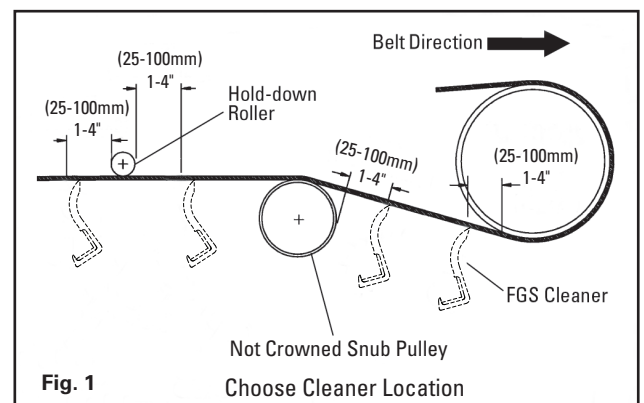
- Unpack belt cleaner from packaging
- **NOTE:** Cleaner has been assembled to meet packaging needs. Disassembly required.
- Verify that correct size cleaner has been ordered
- Verify that all parts are included

Installation Instructions

1. Measure outside structure width where cleaner will be mounted.
2. Measure belt cleaner shaft length and cut shaft to length. For cleaners 1200mm (48") and under, minimum shaft length is structure width + 1800mm (7"). For cleaners 1350mm (54") and above, shaft length is structure width + 360mm (14").
3. Using the main shaft assembly, place the FGS against the structure and clamp the cleaner to the conveyor to determine the positioning of the cleaner.

⚠ Warning: Ensure clamped cleaner is secure. Clamps may slip and cause the cleaner to fall unexpectedly. Personnel must NOT be below a clamped cleaner.

4. Cut plastic blade and blade holder bar to desired length.
5. The blade holder will need to be cut to a minimum of the belt width + 50mm (2") to ensure it will engage the reaction arms. If the blade is cut wider than the belt, the blade holder will need to be cut longer than this. At final assembly, the blade holder would ideally extend beyond the reaction arms by approx. 6mm (1/4") minimum.



Section 4 - Installation Instructions - FGS (continued)

6. With the system safely clamped into position, install the blade and bar assembly of the cleaner reaction arms and adjust the position of the cleaner (Fig. 1), and choose the cleaner blade orientation (Fig. 2). Ensure there is adequate clearance to swing the arms and clear any obstacles.
7. The bolt holes need to be transfer punched onto the conveyor structure in accordance with the FGS side plate fastener holes, as per Fig. 3, in such a way that at least two fasteners per side can be installed. If mounting cleaner was supplied with stand off bolts, install as per Fig. 4. If no stand offs are required, install side plates as per Fig. 5.
8. Once the cleaner is fully assembled into place, mark the mounting holes and remove the complete cleaner from the conveyor structure.
9. Back drill all holes using an 8mm (5/16") drill. At least two bolt holes are needed per side plate as noted in the bolt hole diagram (Fig. 3).
10. Clean up or remove any metal shavings or burrs created during the cutting/drilling of the shaft and mounting bolt holes.

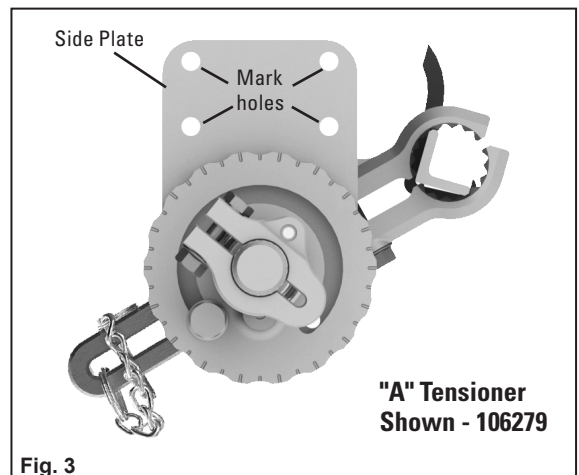


Fig. 3

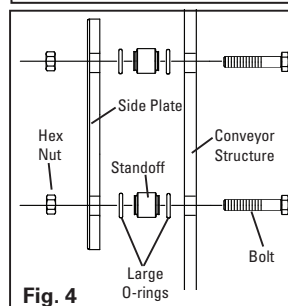


Fig. 4

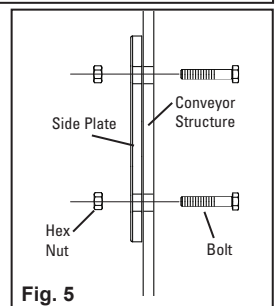
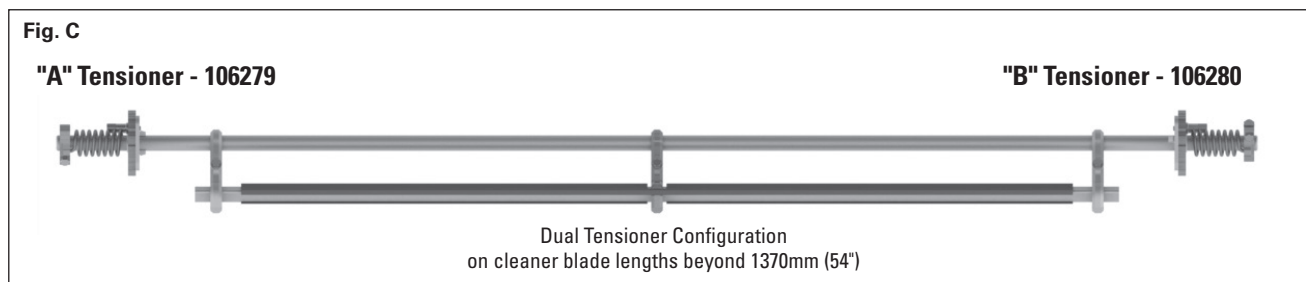
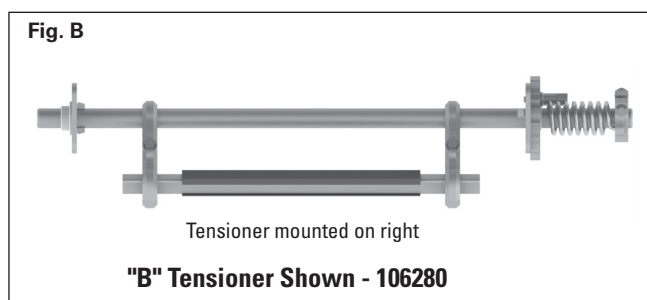
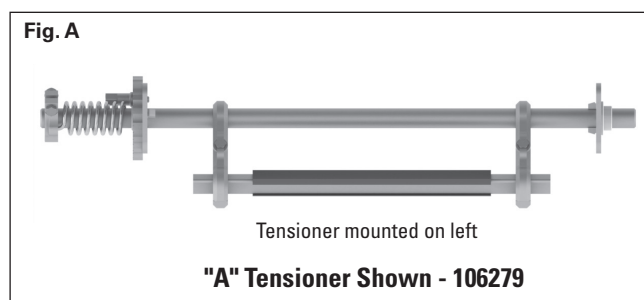


Fig. 5

Note: The Food Grade Secondary (FGS) cleaner will come fully assembled to meet packaging needs. Disassembly required. Verify that the "out of the box" configuration is the right one for your application (Fig. A & B). The appropriate tensioner should have been pre-determined for each specific application. The tensioning system requires that the torsion spring operate in the coil "tightening" direction when applying blade force against the belt. In the case of cleaner blade lengths that exceed 1372 (54"), it will be necessary to use a dual tensioner mechanism (Fig. C) to provide even pressure across the length of the blade.

ALL VIEWS FROM TOP LOOKING DOWN AT BLADE TIP



Section 4 – Installation Instructions - FGS (continued)

11. The appropriate tensioner must be selected prior to ordering the FGS based on the side of the conveyor on which the tensioner is to mount. A horizontal distance of shaft length + 152mm (6") is required. Attach the side plate to the outside of the conveyor structure.

12. Attach opposite side plate per Fig. 4 or Fig. 5.

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.

13. Install shaft bushings on side plates and slide the shaft through the bushings in such a way that the torsion spring mechanism can be clamped to the shaft (Fig. 6).
14. Prior to engaging the shaft through the second bushing, install the reaction arms and optional locking lever on the shaft as shown (Fig. 6) inside the width of the conveyor structure.
15. Position shaft through side plate bushing and tensioner on opposite side (Fig. 7). Make sure the reaction arms are installed at least 25mm (1") away from the side plates.
16. Snap the cleaner blade onto the support bar and adjust the blade location by gently tapping into position (Fig. 8). Use a rubber mallet; be careful not to damage the blade.

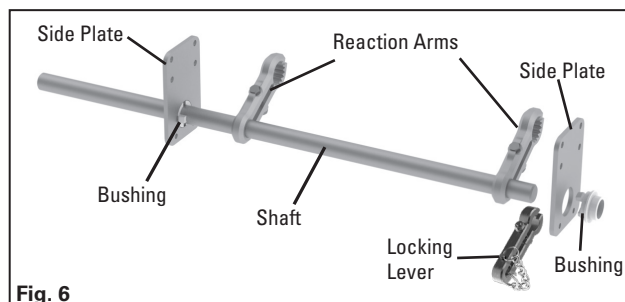


Fig. 6

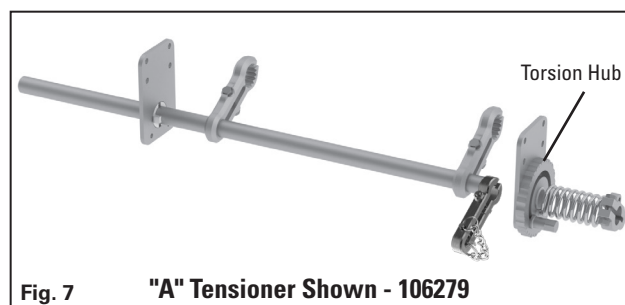


Fig. 7

"A" Tensioner Shown - 106279

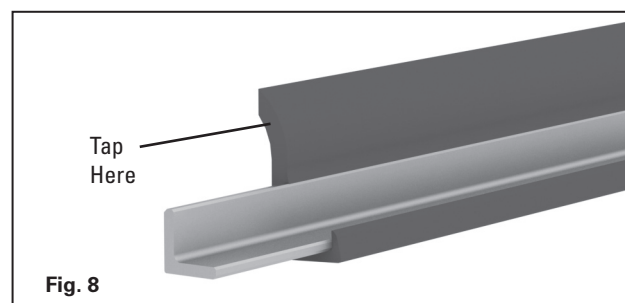
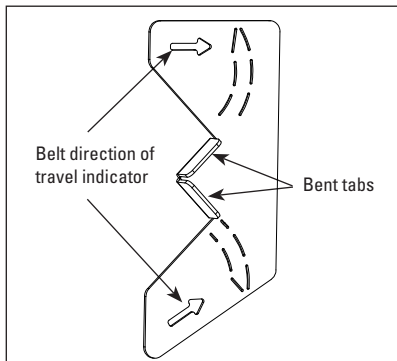


Fig. 8

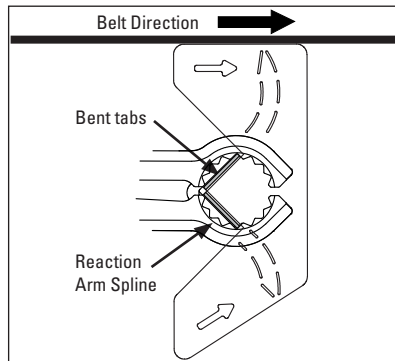
Section 4 - Installation Instructions - FGS (continued)

NOTICE:

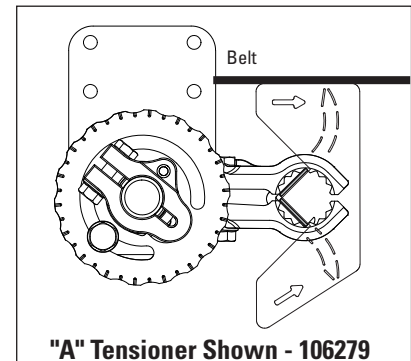
Before you proceed, determine the final position of the blade and bar assembly. Before completing step 17 take time to determine the appropriate blade position when contacting the belt.



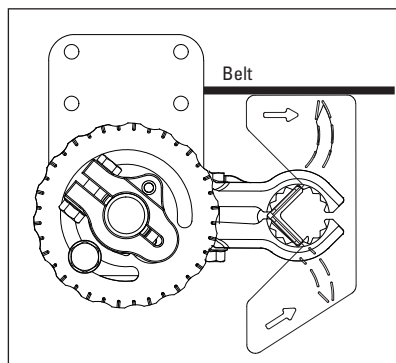
A) Use the FGS installation gauge to determine the correct blade to belt contact angle.



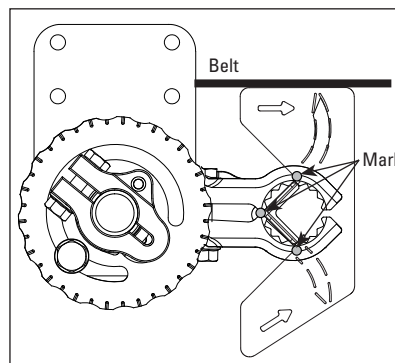
B) Orient the gauge arrow in the direction of belt travel and position the gauge bent tabs inside the reaction arm spline.



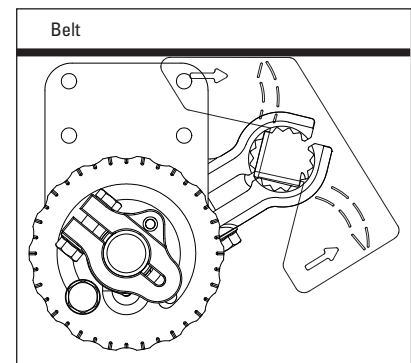
C) For cleaners that use a dual durometer blade use the long side of the gauge to determine correct blade to belt contact angle.



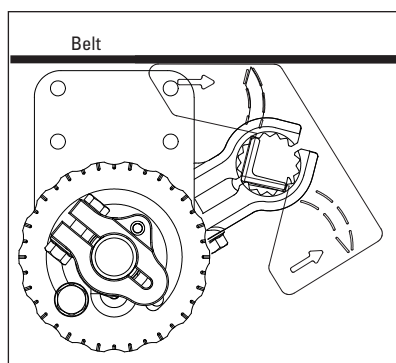
D) In this example we have a dual durometer blade properly contacting the belt, your blade and bar assembly will be positioned inside the spline in the correct starting location.



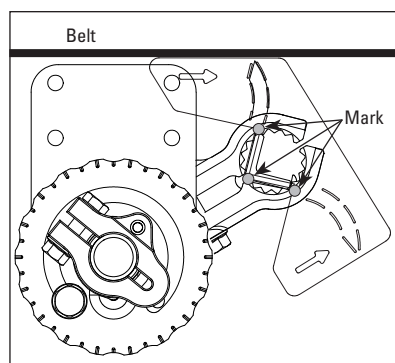
E) Mark the location of the tabs on the reaction arm for reference.



F) For cleaners that use a UHMW or metal detectable blade use the short side of the gauge to determine correct blade to belt contact angle.



G) In this example we have a UHMW blade properly contacting the belt, your blade and bar assembly will be positioned inside the spline in the correct starting location.



H) Mark the location of the tabs on the reaction arm for reference.

Note: Optional Locking Lever not shown for clarity.

Proceed to Step 17

Section 4 – Installation Instructions (continued)

17. Attach the blade and bar subassembly to the FGS reaction arms (Fig. 9). Slide the blade assembly bar inside the reaction arm spline.

18. Engage spline for the desired blade angle of attack to the belt.

Note: Ensure all 3 blade holder corners engage spline recesses.

19. Ensure proper alignment between the bar and reaction arms by marking the position of the bar on the reaction arm spline (Fig. 9).

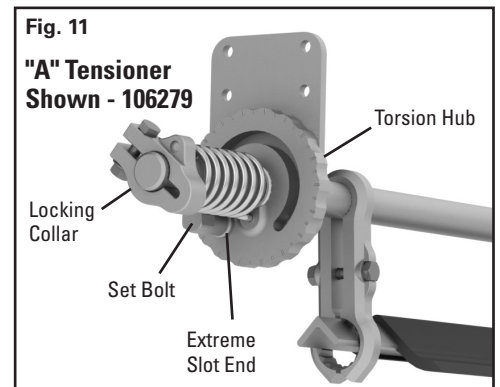
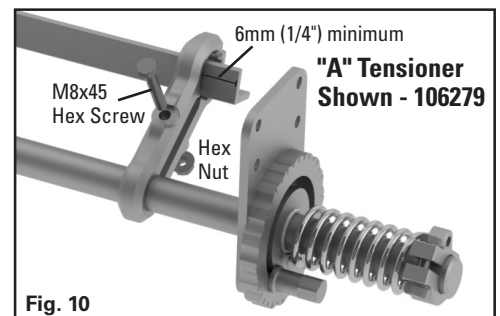
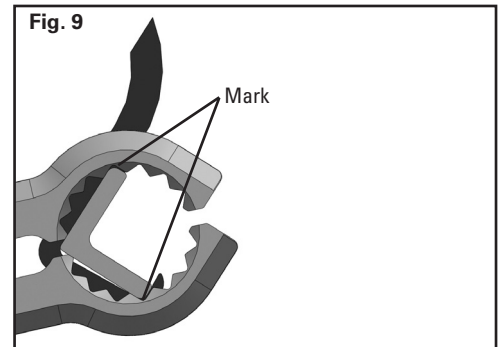
Note: In addition to marking the reaction arm splines after observing successful operation, mark the position of the Torsion Hub relative to the side plate.

⚠ Caution: Apply Food Grade Antiseize to all threaded joints, bolts, and nuts.

20. The blade holder bar should extend a minimum of 6mm (1/4") beyond the reaction arm outside face (Fig. 10). Insert the M8x45 hex screw through the reaction arm hole from the self-wrenching side and tighten with the hex nut (Fig. 10).

21. With the blade hanging freely, rotate the Torsion Hub so the extreme slot end is against the set bolt. Full slot travel must be available for tensioning (Fig. 11).

22. With the blade and Torsion Hub positioning established, clamp the Locking Collar in place with the M8x35 Hex Screw and nut (antisieze required) (Fig. 11).



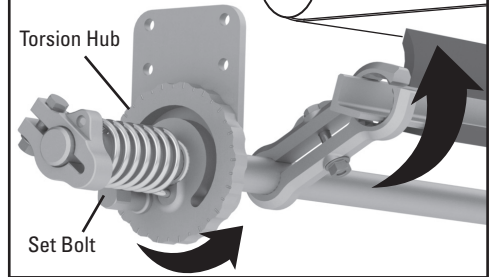
Note: Optional Locking Lever not shown for clarity.

Section 4 – Installation Instructions (continued)

23. Tension Cleaning Blade to conveyor belt by rotating the Torsion Hub until blade is making contact with belt and light tension is felt in Torsion Hub (Fig. 12). Secure the Torsion Hub by tightening the set bolt.
24. While holding Torsion Hub in tension pre-set position, tighten set bolt ensuring that the torsion spring assembly is secured (Fig. 11).
25. The optional Locking Lever can be used to hold the blade away from the belt for cleaning and blade removal. After setting the pre-tension (Step 24) but before tightening the Lever clamp bolt, determine Lever position when blade is held away from belt. Drill out one of the M8 threaded holes using a 8mm (5/16") diameter drill in the Side Plate aligned with the slot of the Locking Lever. Position lever in accessible position roughly 30 degrees from the new hole in the direction of the pre-tension and tighten Locking Lever clamp bolt. Ensure the Locking Lever is tight on the cleaner shaft. Operate Lever to move blade away from belt and lock in place by setting the provided pin through the Lever slot and 8mm (5/16") hole. (Fig. 13 and 14).

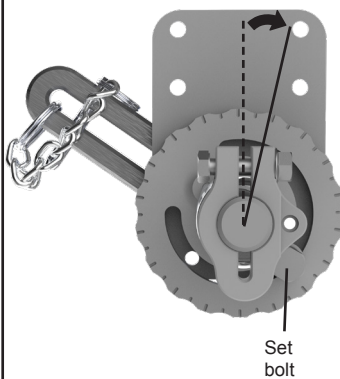
Fig. 12

**"A" Tensioner
Shown - 106279**



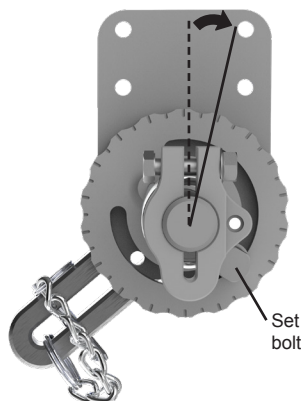
Note: Optional Locking Lever not shown for clarity.

Fig. 13 **"B" Tensioner
Shown - 106280**



Rotate torsion hub 1-3 more notches to apply blade tension

Fig. 14 **"B" Tensioner
Shown - 106280**



Rotate torsion hub 1-3 more notches to apply blade tension

26. Test run the conveyor.

Note: Once the desired blade/belt angle of attack is established, permanently mark (light drill recess) the position of the bar on the reaction arm spline to ensure proper reassembly after future disassembly. In addition to marking the reaction arm splines after observing successful operation, mark the position of the Torsion Hub relative to the mounting plate.

Caution: Do not over-tension the cleaner blade as this may damage the cleaner or the conveyor belt. Do not exceed 30 degrees of tensioner rotation (3 marks on Torsion Hub).

NOTICE:

Cleaner has not been sanitized and must be cleaned and sanitized prior to use.

Section 4 – Installation Instructions (continued)

4.2 FGS in a Primary Position

The first step in installing your FGS Food Grade Secondary cleaner in a primary position is to verify that there is adequate structure at the head pulley for mounting the cleaner.

NOTICE:

The FGS comes fitted with a secondary blade from the factory; you will have to buy a primary (FGP) blade from your distributor in order to operate the FGS in a primary position. For correct item code refer to the Primary Replacement Blade table (p. 13).

1. Measure pulley diameter (A), including lagging and belt (Fig. 15).
2. Locate the overall pulley diameter that most closely matches yours on chart A, and use the corresponding X, Y, & C dimensions to locate the position of the center of the cleaner blade support bar (Fig. 15).

Chart A: Blade support bar location

A		X		Y		C	
mm	in.	mm	in.	mm	in.	mm	in.
51	2,0	24	0,95	76	2,98	80	3,13
64	2,5	30	1,19	77	3,03	83	3,25
76	3,0	37	1,44	78	3,08	86	3,39
89	3,5	43	1,68	79	3,12	90	3,55
102	4,0	49	1,93	81	3,17	94	3,71
114	4,5	55	2,18	82	3,22	99	3,88
127	5,0	61	2,42	83	3,27	103	4,06
140	5,5	68	2,67	84	3,31	108	4,25
152	6,0	74	2,91	85	3,36	113	4,45
165	6,5	80	3,16	87	3,41	118	4,64
178	7,0	86	3,40	88	3,46	123	4,85
191	7,5	93	3,65	89	3,51	129	5,06
203	8,0	99	3,89	90	3,55	134	5,27
216	8,5	105	4,14	91	3,60	139	5,48
229	9,0	111	4,38	93	3,65	145	5,70
241	9,5	118	4,63	94	3,70	150	5,92
254	10,0	124	4,88	95	3,74	156	6,14

A = Diameter of pulley + lagging thickness + belt thickness

C = Centerline of pulley to center line of blade support bar

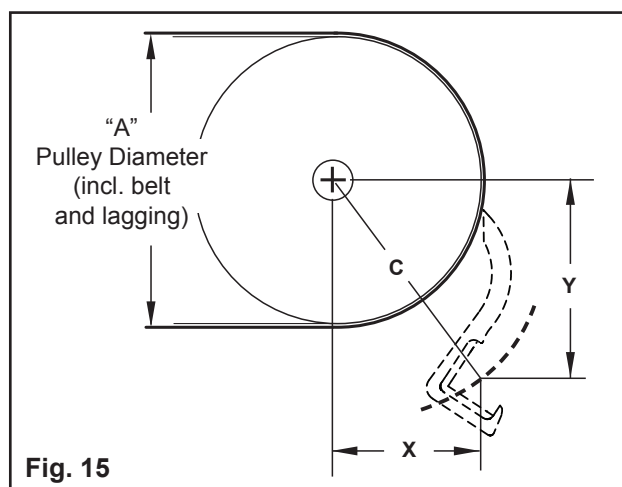


Fig. 15

3. Trial fit the FGS with the blade positioned per Fig. 1. Establish acceptable mounting plate positions on each side of the conveyor, clamp in place if necessary, and mark holes for drilling. A minimum of 3 mounting bolts is required for each mounting plate. Drill mounting holes and assemble FGS in position as previously described.
4. Proceed to Section 5.

Section 4 – Installation Instructions (continued)

Primary Replacement Blades

DESCRIPTION	ORDERING NUMBER	ITEM CODE	WT. KGS.
305mm (12") Blue Blade	FGB-BL3-12/305	56531	0,1
457mm (18") Blue Blade	FGB-BL3-18/457	56532	0,2
610mm (24") Blue Blade	FGB-BL3-24/610	56533	0,3
762mm (30") Blue Blade	FGB-BL3-30/762	56534	0,4
914mm (36") Blue Blade	FGB-BL3-36/914	56535	0,4
1067mm (42") Blue Blade	FGB-BL3-42/1067	56536	0,5
1219mm (48") Blue Blade	FGB-BL3-48/1219	56537	0,5
305mm (12") White Blade	FGB-W3-12/305	56540	0,1
457mm (18") White Blade	FGB-W3-18/457	56541	0,2
610mm (24") White Blade	FGB-W3-24/610	56542	0,3
762mm (30") White Blade	FGB-W3-30/762	56543	0,4
914mm (36") White Blade	FGB-W3-36/914	56544	0,4
1067mm (42") White Blade	FGB-W3-42/1067	56545	0,5
1219mm (48") White Blade	FGB-W3-48/1219	56546	0,5
305mm (12") Metal Detectable Blade	FGB-MD3-12/305	56558	0,1
457mm (18") Metal Detectable Blade	FGB-MD3-18/457	56559	0,2
610mm (24") Metal Detectable Blade	FGB-MD3-24/610	56560	0,3
762mm (30") Metal Detectable Blade	FGB-MD3-30/762	56561	0,4
914mm (36") Metal Detectable Blade	FGB-MD3-36/914	56562	0,4
1067mm (42") Metal Detectable Blade	FGB-MD3-42/1067	56563	0,5
1219mm (48") Metal Detectable Blade	FGB-MD3-48/1219	56564	0,5

Section 5 - Pre-Operation Checklist and Testing

5.1 Pre-Op Checklist

- Recheck that all fasteners are tightened properly.
- Check the blade angle of attack.
- Be sure that all installation materials and tools have been removed from the belt and the conveyor area.
- Clean debris and sanitize cleaner before operation.

5.2 Test Run the Conveyor

- Run the conveyor for at least 15 minutes and inspect the cleaning performance.
- If performance is inadequate, loosen set bolt.
- Rotate Torsion Hub to adjust tension as is required for application. Do not exceed 30 degrees of tensioner rotation (3 marks on Torsion Hub).
- Rotate the hub until the desired cleaning performance is achieved.
 - In the case of cleaners with dual tensioners, this operation has to be performed simultaneously on both sides of the cleaner.
- Tighten the set bolt.

NOTE: If cleaning performance is still not satisfactory, a different blade/belt angle of attack may be evaluated. This requires complete conveyor shut-down and LockOut TagOut before adjusting the blade holder in the reaction arm spline.

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 FGS Secondary Cleaner is in direct contact with the moving belt. Only visual observations can be made while the belt is running. With monolithic belting, the cleaner may need to be positioned near the tail pulley on head pulley drive systems, to avoid belt sag accumulation before the cleaner. 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 shaft 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 there is cover damage to the belt.
- If there is vibration or bouncing of the cleaner on the belt.
- Check for material buildup on the adjacent hold-down 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 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 shaft.
- Closely inspect the blade for wear and any damage. Replace if needed.
- Ensure full blade to belt contact.
- Inspect the cleaner shaft for damage.
- Inspect all fasteners for tightness and wear. Tighten or replace as needed.
- Replace any worn or damaged components.
- If blade flash occurs, remove as needed.
- Check the tension of the cleaner blade to the belt. Adjust the tension if necessary.
Do not exceed 30 degrees of tensioner rotation (3 marks on Torsion Hub).
- When maintenance tasks are completed, test run the conveyor to ensure the cleaner is performing properly.

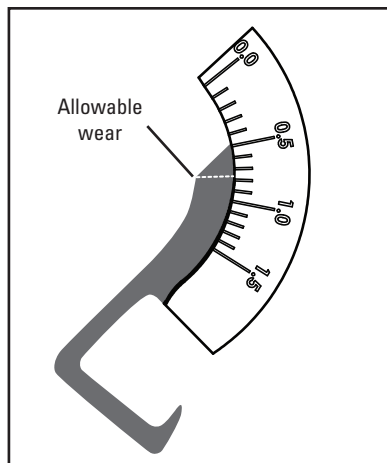
Section 6 - Maintenance (continued)

6.4 Cleaning Instructions

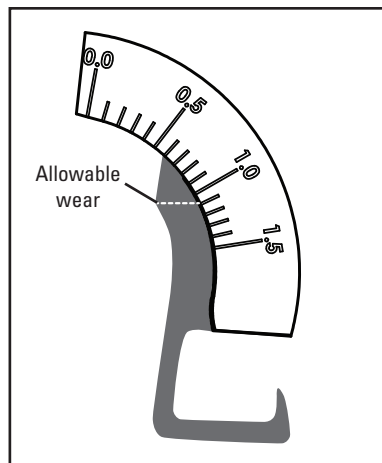
Follow recommended cleaning, foaming, and rinsing procedures as per your company guidelines.

6.5 Blade Wear Inspection

Note: Belt type, belt speed, material being conveyed, installation, and other application factors will affect blade wear.



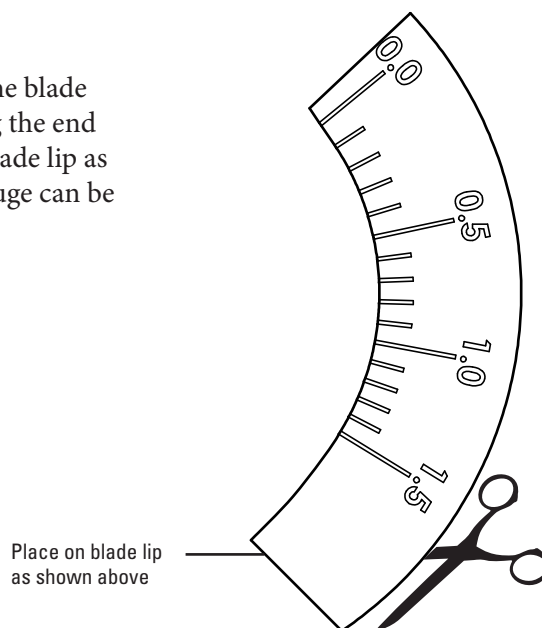
Blade Wear Measurement Using Gauge (see below) - Maximum allowable wear with blade in passive position



Blade Wear Measurement Using Gauge (see below) - Maximum allowable wear with blade in aggressive position

Blade Wear Indicator Gauge Copy and cut out for use

To determine blade wear, use the blade wear gauge (at right) by placing the end opposite the "0" mark on the blade lip as shown in the figures above. Gauge can be copied and cut out for use.



Section 6 - Maintenance (continued)

6.6 Blade Replacement Instructions

Removal of Cleaning Blade

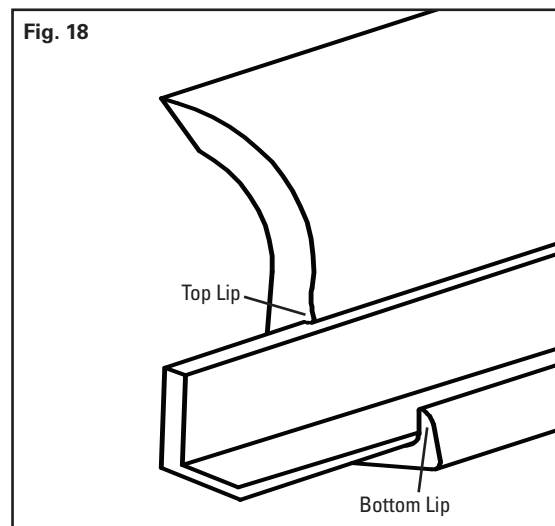
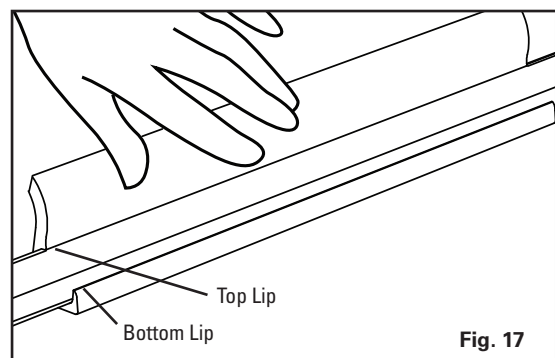
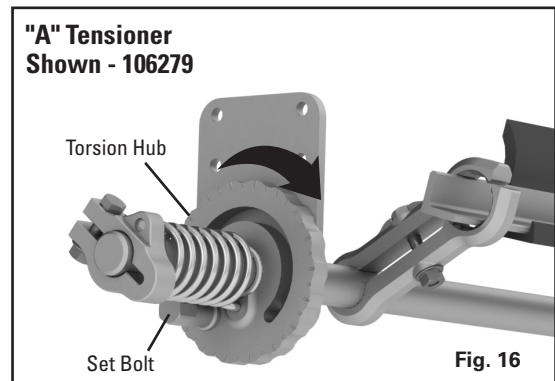
1. Relieve tension on FGS system blade (Fig. 16).
2. Release the tension on the shaft by unlocking the set bolt and turning the Torsion Hub until the blade is free from the tension.

! Caution: Blade will drop to hanging position.

3. Place hand on blade, pressing blade away from the bar. (Fig. 17).
4. Working from one end of the blade, rotate blade back while holding the bar.
5. Blade should snap free from belt cleaner bar.
6. Remove blade.

Installation of Cleaning Blade

1. Reverse steps mentioned above.
 2. Center blade on belt.
 3. Catch bottom lip of blade on lower front edge of belt cleaner bar (Fig. 18).
 4. Beginning at one side of blade, snap blade top lip over bar.
Work the top lip, snapping down the length of the bar.
 5. Position blade centered on the width of the belt.
- Note:** On wider belts, it may be necessary to assist the blade snapping with a free hand while holding the bar on the cleaner.
6. Apply tension to the FGS system.
 7. Test run conveyor and adjust cleaner tension as required.



Section 6 - Maintenance (continued)

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 (continued)

6.8 Cleaner Maintenance Checklist

FGS Belt Cleaner: _____ **Ordering Number:** _____

Blade Width: ☐ Belt minus 1" (25mm) ☐ Material path plus 3" (75mm).

Conveyor Information:

Conveyor Number: _____ Belt Condition: _____

Belt Width: ☐ 300mm ☐ 450mm ☐ 600mm ☐ 750mm ☐ 900mm ☐ 1050mm ☐ 1200mm ☐ 1350mm ☐ 1500mm ☐ 1650mm ☐ 1800mm ☐ 1950mm ☐ 2100mm
12" 18" 24" 30" 36" 42" 48" 54" 60" 66" 72" 78" 84"

Head Pulley Diameter (Belt & Lagging): _____

Belt Speed: _____ fpm Belt Thickness: _____

Belt Splice: _____ Condition of Splice: _____ Number of splices: _____ ☐ Skived ☐ Unskived

Material conveyed: _____

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

Blade Life:

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

Is blade making complete contact with belt? ☐ Yes ☐ No

Blade height: Left _____ Middle _____ Right _____

Blade condition: ☐ Good ☐ Grooved ☐ Smiled ☐ Not contacting belt ☐ Damaged

Was Cleaner Adjusted: ☐ Yes ☐ No

Shaft Condition: ☐ Good ☐ Bent ☐ Worn

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: ☐ Comments: _____

Performance: ☐ Comments: _____

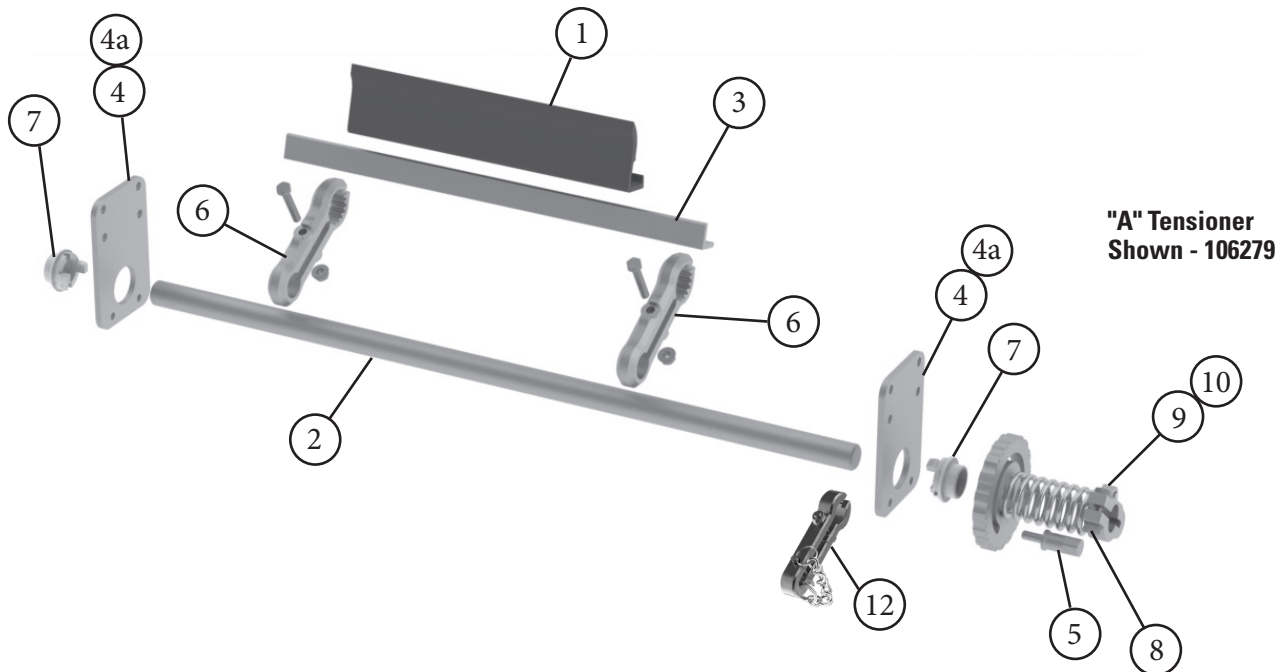
Other Comments: _____

Section 7 - Troubleshooting

Problem	Possible Cause	Possible Solutions
Poor cleaning performance	Excessive build-up on cleaner	Inspect blade, bushings, and shaft for material buildup
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Cleaner installed in wrong location	Relocate to correct location
	Cleaner blade worn or damaged	Replace cleaner blade
Rapid blade wear	Excessive build-up on cleaner	Inspect blade, bushings, and shaft for material buildup
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Cleaner installed in wrong location	Relocate to correct location
	Excessively abrasive material	More frequent blade adjustment and replacement may be necessary
	Mechanical splice damaging blade	Repair, skive, or replace splice
Excessive center wear on blade (smile effect)	Blade wider than material path	Replace blade with width appropriate for material path
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Crowned pulley	Change to a straight pulley
Unusual wear, flash, or damage to blade	Excessive build-up on cleaner	Inspect blade, bushings, and shaft for material buildup
	Mechanical splice damaging blade	Repair, skive, or replace splice
	Belt damaged or ripped	Repair or replace belt
	Cleaner installed in wrong location	Relocate to correct dimension
	Blade angle of attack	Reposition blade bar assembly within the spline
Vibration or noise	Excessive build-up on cleaner	Inspect blade, bushings, and shaft for material buildup
	Cleaner installed in wrong location	Relocate to correct dimension
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Cleaner mounting not secure	Check and tighten all bolts and nuts
	Cleaner not square to head pulley	Relocate to correct position
	Material build-up in chute	Remove build-up on cleaner and in chute
	Blade angle of attack	Reduce tension or change angle of attack
Cleaner being pushed away from belt	Excessive build-up on cleaner	Inspect blade, bushings, and shaft for material buildup
	Cleaner under-tensioned	Increase tension incrementally and reevaluate
	Cleaner over-tensioned	Decrease tension incrementally and reevaluate
	Sticky material is overburdening cleaner	Increase tension incrementally and reevaluate
	Blade angle of attack	Confirm location of blade bar is equal on both reaction arms

Section 8 - Replacement Parts and Specifications

Replacement Parts List



FGS FOOD GRADE SECONDARY CLEANER REPLACEMENT BLADES

REF	BLADE WIDTH	ORDERING NUMBER	ITEM CODE
1	Blue Blades		
	305mm (12")	FGB-BL2-12/305 RPL BLADE BLUE	57100
	457mm (18")	FGB-BL2-18/457 RPL BLADE BLUE	57101
	610mm (24")	FGB-BL2-24/610 RPL BLADE BLUE	57102
	762mm (30")	FGB-BL2-30/762 RPL BLADE BLUE	57103
	914mm (36")	FGB-BL2-36/914 RPL BLADE BLUE	57104
	1067mm (42")	FGB-BL2-42/1067 RPL BLADE BLUE	57105
	1219mm (48")	FGB-BL2-48/1219 RPL BLADE BLUE	57106
	1372mm (54")	FGB-BL2-54/1372 RPL BLADE BLUE	57107
	1524mm (60")	FGB-BL2-60/1524 RPL BLADE BLUE	57108
	1676mm (66")	FGB-BL2-66/1676 RPL BLADE BLUE	57109
	1828mm (72")	FGB-BL2-72/1828 RPL BLADE BLUE	57110
	1981mm (78")	FGB-BL2-78/1981 RPL BLADE BLUE	57111
	2134mm (84")	FGB-BL2-84/2134 RPL BLADE BLUE	57112
	White Blades		
	305mm (12")	FGB-W2-12/305 RPL BLADE WHT	57120
	457mm (18")	FGB-W2-18/457 RPL BLADE WHT	57121
	610mm (24")	FGB-W2-24/610 RPL BLADE WHT	57122
	762mm (30")	FGB-W2-30/762 RPL BLADE WHT	57123
	914mm (36")	FGB-W2-36/914 RPL BLADE WHT	57124
	1067mm (42")	FGB-W2-42/1067 RPL BLADE WHT	57125
	1219mm (48")	FGB-W2-48/1219 RPL BLADE WHT	57126
	1372mm (54")	FGB-W2-54/1372 RPL BLADE WHT	57127
	1524mm (60")	FGB-W2-60/1524 RPL BLADE WHT	57128
	1676mm (66")	FGB-W2-66/1676 RPL BLADE WHT	57129
	1828mm (72")	FGB-W2-72/1828 RPL BLADE WHT	57130
	1981mm (78")	FGB-W2-78/1981 RPL BLADE WHT	57131
	2134mm (84")	FGB-W2-84/2134 RPL BLADE WHT	57132

REF	BLADE WIDTH	ORDERING NUMBER	ITEM CODE
1	Metal Detectable Blades		
	305mm (12")	FGB-MD2-12/305 RPL BLD MTL DT	57140
	457mm (18")	FGB-MD2-18/457 RPL BLD MTL DT	57141
	610mm (24")	FGB-MD2-24/610 RPL BLD MTL DT	57142
	762mm (30")	FGB-MD2-30/762 RPL BLD MTL DT	57143
	914mm (36")	FGB-MD2-36/914 RPL BLD MTL DT	57144
	1067mm (42")	FGB-MD2-42/1067 RPL BLD MTL DT	57145
	1219mm (48")	FGB-MD2-48/1219 RPL BLD MTL DT	57146
	1372mm (54")	FGB-MD2-54/1372 RPL BLD MTL DT	57147
	1524mm (60")	FGB-MD2-60/1524 RPL BLD MTL DT	57148
	1676mm (66")	FGB-MD2-66/1676 RPL BLD MTL DT	57149
	1828mm (72")	FGB-MD2-72/1828 RPL BLD MTL DT	57150
	1981mm (78")	FGB-MD2-78/1981 RPL BLD MTL DT	57151
	2134mm (84")	FGB-MD2-84/2134 RPL BLD MTL DT	57152
	Dual Durometer Blades		
	305mm (12")	FGB-MDDD3-12/305	56549
	457mm (18")	FGB-MDDD3-18/457	56550
	610mm (24")	FGB-MDDD3-24/610	56551
	762mm (30")	FGB-MDDD3-30/762	56552
	914mm (36")	FGB-MDDD3-36/914	56553
	1067mm (42")	FGB-MDDD3-42/1067	56554
	1219mm (48")	FGB-MDDD3-48/1219	56555
	1372mm (54")	FGB-MDDD3S-54/1372 RPL BLD MDDD	57173
	1524mm (60")	FGB-MDDD3S-60/1524 RPL BLD MDDD	57174
	1676mm (66")	FGB-MDDD3S-66/1676 RPL BLD MDDD	57175
	1828mm (72")	FGB-MDDD3S-72/1828 RPL BLD MDDD	57176
	1981mm (78")	FGB-MDDD3S-78/1981 RPL BLD MDDD	57177
	2134mm (84")	FGB-MDDD3S-84/2134 RPL BLD MDDD	57178

Section 8 - Replacement Parts and Specifications (continued)

FGS FOOD GRADE SECONDARY CLEANER REPLACEMENT PARTS

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE
2	762mm (30") Shaft	FGS-S-30/762 REPL SHAFT	57180
	914mm (36") Shaft	FGS-S-36/914 REPL SHAFT	57181
	1067mm (42") Shaft	FGS-S-42/1067 REPL SHAFT	57182
	1219mm (48") Shaft	FGS-S-48/1219 REPL SHAFT	57183
	1372mm (54") Shaft	FGS-S-54/1372 REPL SHAFT	57184
	1524mm (60") Shaft	FGS-S-60/1524 REPL SHAFT	57185
	1676mm (66") Shaft	FGS-S-66/1676 REPL SHAFT	57186
	1981mm (78") Shaft	FGS-S-78/1981 REPL SHAFT	57187
	2134mm (84") Shaft	FGS-S-84/2134 REPL SHAFT	57188
	2286mm (90") Shaft	FGS-S-90/2286 REPL SHAFT	57189
	2438mm (96") Shaft	FGS-S-96/2438 REPL SHAFT	57190
	2591mm (102") Shaft	FGS-S-102/2591 REPL SHAFT	57191
3	2743mm (108") Shaft	FGS-S-108/2743 REPL SHAFT	57192
	457mm (18") Blade Support Bar	FGS-B-18/457 REPL BAR	57200
	610mm (24") Blade Support Bar	FGS-B-24/610 REPL BAR	57201
	762mm (30") Blade Support Bar	FGS-B-30/762 REPL BAR	57202
	914mm (36") Blade Support Bar	FGS-B-36/914 REPL BAR	57203
	1067mm (42") Blade Support Bar	FGS-B-42/1067 REPL BAR	57204
	1219mm (48") Blade Support Bar	FGS-B-48/1219 REPL BAR	57205
	1372mm (54") Blade Support Bar	FGS-B-54/1372 REPL BAR	57206
	1524mm (60") Blade Support Bar	FGS-B-60/1524 REPL BAR	57207
	1676mm (66") Blade Support Bar	FGS-B-66/1676 REPL BAR	57208
	1829mm (72") Blade Support Bar	FGS-B-72/1829 REPL BAR	57209
	1981mm (78") Blade Support Bar	FGS-B-78/1981 REPL BAR	57210
	2134mm (84") Blade Support Bar	FGS-B-84/2134 REPL BAR	57211
	2286mm (90") Blade Support Bar	FGS-B-90/2286 REPL BAR	57212

FGS FOOD GRADE SECONDARY CLEANER TENSIONERS

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE
-	"A" Tensioner - Left	FGTC-TWA TENSIONER WELDMENT A	106279
-	"B" Tensioner - Right	FGTC-TWB TENSIONER WELDMENT B	106280

FGS FOOD GRADE SECONDARY CLEANER REPLACEMENT HARDWARE

REF	DESCRIPTION	ORDERING NUMBER	ITEM CODE
4	End Plate	FGS-FGPES-PM BLANK MNTG PLT	57258
4a	End Plate - Europe	FGS-FGPES-EU-MP MOUNTING PLATE	57251
5	Set Bolt	FGS-PB POSITIONING BOLT	57252
6	Reaction Torque Arm	FGS-TA TORQUE ARM	57255
7	Plastic Bushing	FGS-SB SNAP BUSHING	57256
8	Nut - Stainless	NUT FLANGED M8X1,25 SS	GT207
9	Screw Stainless 1.25x35	SCREW HEX M8-1.25X35 PARTIAL THD, SS	GT208
10	Screw Stainless 1.25x45	SCREW HEX M8-1.25X45 PARTIAL THD, SS	GT209
11	Hardware Kit	FGSHWKIT REPL HARDWARE KIT	57257
12	Locking Lever	FG LEVER KIT	104674

FGS FOOD GRADE SECONDARY CLEANER SPECIFICATIONS

Temperature Range	UHMW: -29°C to 60°C (-20°F to 140°F)
	Dual Durometer: 0°C to 60°C (+32°F to 140°F)
Blade Height	UHMW, MD 50mm (2.0") / Dual Durometer 76mm (3.0")
Usable Blade Wear Length (pulley size dependent)	50-66mm (2" - 2.6")
Blade Length Range	305-1828mm (12"-72")
Blade Material	Food-grade UHMW, UHMW with Stainless Steel, or Urethane with PVC*
Blade Hardness	UHMW: 63D Shore Hardness
	Urethane: 85A Shore Hardness
Pole/Mounting Material	304 Stainless Steel

*Urethane with PVC blades are not Canada Health or CE 1935/2004 approved.



Section 9 - Certificates



Health
Canada

Santé
Canada

Bureau of Chemical Safety
Food Directorate, Health Canada
251 Sir Frederick Banting Drwy
Postal Locator: 2201C
Ottawa, Ontario, K1A 0K9, Canada

October 26, 2020

Our files: KS20071602/03/04
X-ref: KP16080303 and KP15080703
KP16080302 and KP15080703
KP16080304 and KP15080703

Timothy A. Gunter Jr.
Product Compliance Engineer
Flexco
tgunter@flexco.com

Dear Mr. Gunter Jr.,

RE: Food Grade Secondary Cleaner with blade GT210 (White UHMW)
Food Grade Secondary Cleaner with blade GT211 (Blue UHMW)
Food Grade Secondary Cleaner with blade GT212 (Blue Metal Detachable UHMW)

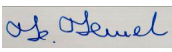
This is in response to your email of July 16, 2020, seeking our comments on the acceptability of the subject products for use in food contact applications.

The subject scrapers will be used on conveyor belts carrying meat, poultry and dairy products at a maximum temperature of 60°C.

Based on the information submitted, we can advise that we see no reason to object to the use of the subject products as intended, provided they are technically suitable for the proposed end-uses.

Please note that this opinion is applicable only to the acceptability of these products with respect to its chemical safety for its intended uses in food contact applications under the authority of the Division 23 of the Food and Drug Regulations. This opinion does not exempt these products and their constituent substances from other legal requirements or from other reporting requirements related to their manufacture, or import, if applicable. It is your responsibility to ensure that these products comply with all legal and reporting requirements, which are relevant to their manufacture, import or use.

Yours truly,

X 

Signed by: Emelianova, E

Elena Emelianova, Ph.D.
Scientific Evaluator
Food Packaging Materials and Incidental Additives Section
Chemical Health Hazard Assessment Division

Canada 

Section 9 - Certificates (continued)



Partners in Productivity

EU Declaration of Compliance Statement

Product: FGS Secondary Belt pre-cleaners (white, blue and metal detectable blue versions), with UHMWPE Blades –

Assembly

106300 through 106359

Blades

57100 through 57112

57120 through 57132

57140 through 57152

Blue UHMWPE

White UHMWPE

Blue Metal Detectable UHMWPE

Intended applications: For use in contact with all food types, up to 60C

Framework regulation (EC) No. 1935/2004: (Applicable to all food contact materials)

The above FGS belt pre-cleaners comply with the applicable requirements of Regulation (EC) no.1935/2004 on Materials and Articles intended to come into contact with food including Article 3 (General Requirements) and Article 17 (Traceability).

Good Manufacturing Practice Regulation (EC) No. 2023/2006: (Applicable to all food contact materials)

The above products are manufactured under a quality assurance system which meets the requirements of Regulation (EC) no. 2023/2006 on Good Manufacturing Practice for materials and articles intended to come into contact with food.

Commission regulation (EU) No.10/2011 on plastic materials intended to come into contact with food:

UHMWPE plastic blades used with the secondary belt pre-cleaners are in compositional compliance with EU Regulation 10/2011, including its updates to the date of this statement (Regulations 1282/2011, 1183/2012, 202/2014, 174/2015, 2016/1416, 2017/752, 2018/79, 2018/213, 2018/831, 2019/37 and 2019/1338.) The metal detectable additive used in the blue blade is also listed. Colorants are suitable for use in food contact plastics.

When used as intended, levels of overall migration and specific migration of any substances subject to restriction will not exceed the legal limits (calculated as 6 dm² blade per 1kg of food).

This compliance statement is based on information received from material suppliers, migration testing as below undertaken according to Regulation 10/2011, migration modelling and quality control systems in place at Flexco. Supporting documents are available and can be disclosed to the competent authority on request.

1854 Northridge Drive NW • Walker, Michigan, 49544 • Tel: 1-616-459-3196 • Fax: 1-616-459-4976 • www.flexco.com



Section 9 - Certificates (continued)



Partners in Productivity

Test Simulants	Food Types	Testing Condition
A (10% ethanol), B (3% acetic acid), D2 (Vegetable oil screening substitute isooctane) of Regulation No.10,2011 for Plastic Materials and Articles in contact with food	All dry, aqueous, acidic and fatty foods	OM5 2 hours at 100°C or equivalent

Dual use food additives:

No migratory dual use food additives or authorised food flavourings covered respectively by Regulation (EC) No. 1333/2008 or Regulation (EC) No. 1334/2008 or their implementing measures are understood to be used in the manufacture of the secondary belt pre-cleaners.

Stainless Steel Components

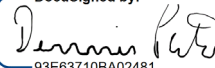
In use of the belt pre-cleaner, the specific metal release limits of the Council of Europe (COE) Resolution CM/Res (2013) 9 on metals and alloys used in food contact materials will not be exceeded.

US FDA Compliance

The blade materials complies with US FDA 21 CFR part 177.1520 "Olefin Polymers, Specifications 2.1 and 2.2 and is suitable for use with all types of food, all conditions of use as detailed in Tables 1 and 2 of 21 CFR Part 176.170

This Declaration is for the product specified above. An updated statement will be provided if the information on which the declaration is based changes or regulatory requirements impact on its validity.

Date 10/24/2022

DocuSigned by:

93E63710BA02481...

Signed –Flexco

1854 Northridge Drive NW • Walker, Michigan, 49544 • Tel: 1-616-459-3196 • Fax: 1-6161-459-4976 • www.flexco.com

Visit www.flexco.com for other Flexco locations and products, or to find an authorized distributor.

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