



Manual Flexco® XP™ Staple Fastener Installation System



Safety, Operation, and Maintenance Manual



WARNING

Improper use of this tool can result in serious bodily injury! This manual contains important information about product function and safety. Please read and understand this manual **BEFORE** operating the tool. Please keep this manual available for other users and owners before they use the tool. This manual should be stored in a safe place.

Patents: www.flexco.com/patents

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Limited Warranty

Flexco warrants to the original purchaser that this product is free from defects in material and workmanship, and agrees to repair or replace, at Flexco's option, any defective product within 1 year from the date of purchase. This warranty is not transferable. It only covers damage resulting from defects in material or workmanship, and it does not cover conditions or malfunctions resulting from normal wear, neglect, abuse, accident or repairs attempted or made by other than our regional repair center or authorized warranty service center.

To obtain warranty service, return the product at your expense together with proof of purchase to Flexco or a Flexco authorized distributor.

Introduction

Role of Applicator

The Manual Staple Applicator is designed to be used with Flexco® XP™ Staple Fasteners.

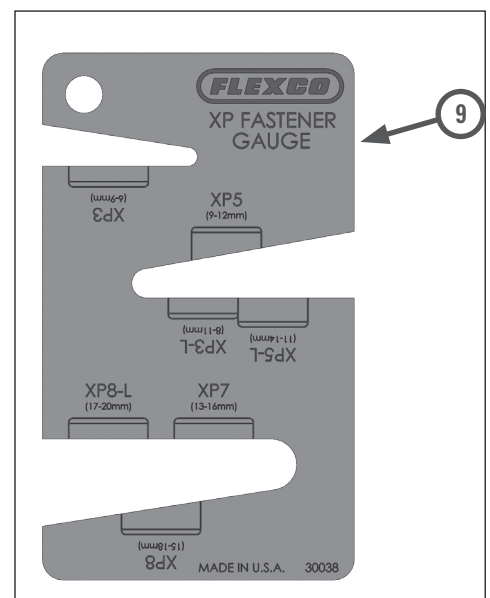
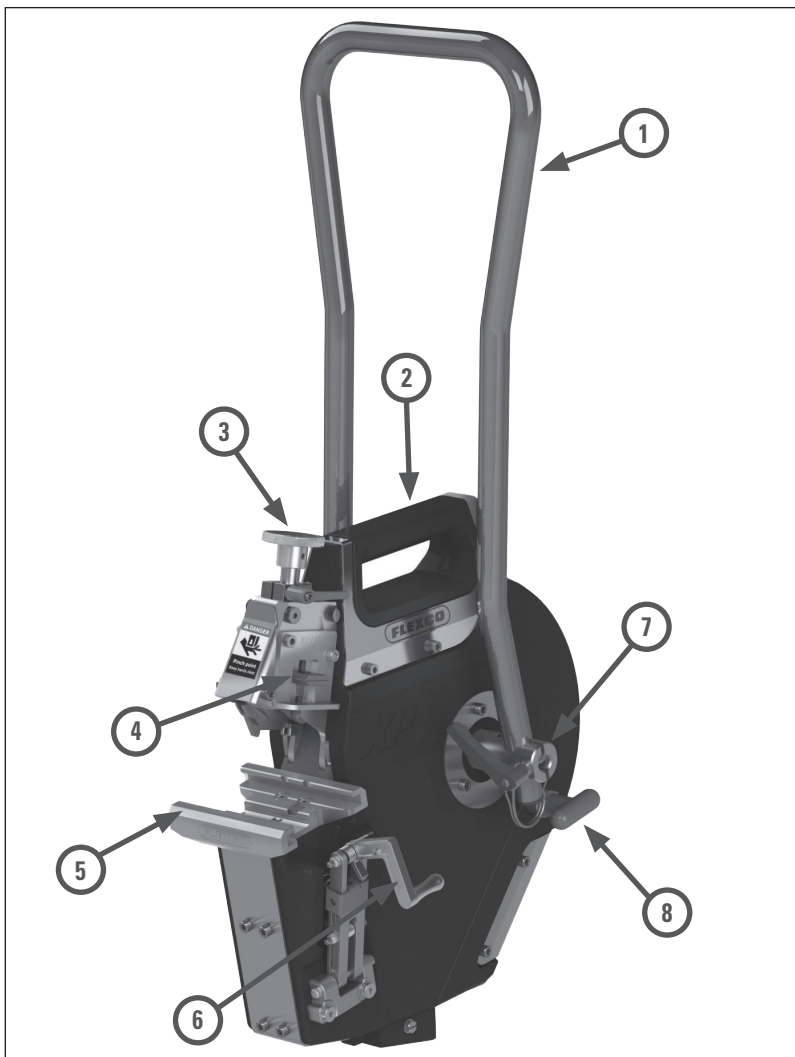
Precision Built

Flexco tools are precision-built tools designed for precise, high volume installation. These tools will deliver efficient, dependable service when used correctly and with care. As with any tool, for best performance, the manufacturer's instructions must be followed. Please study this manual before operating the tool and understand the safety warnings and cautions. The instructions on installation, operation, and maintenance should be read carefully, and the manual kept for reference.

Manual Flexco® XP™ Staple Fastener System

System Components

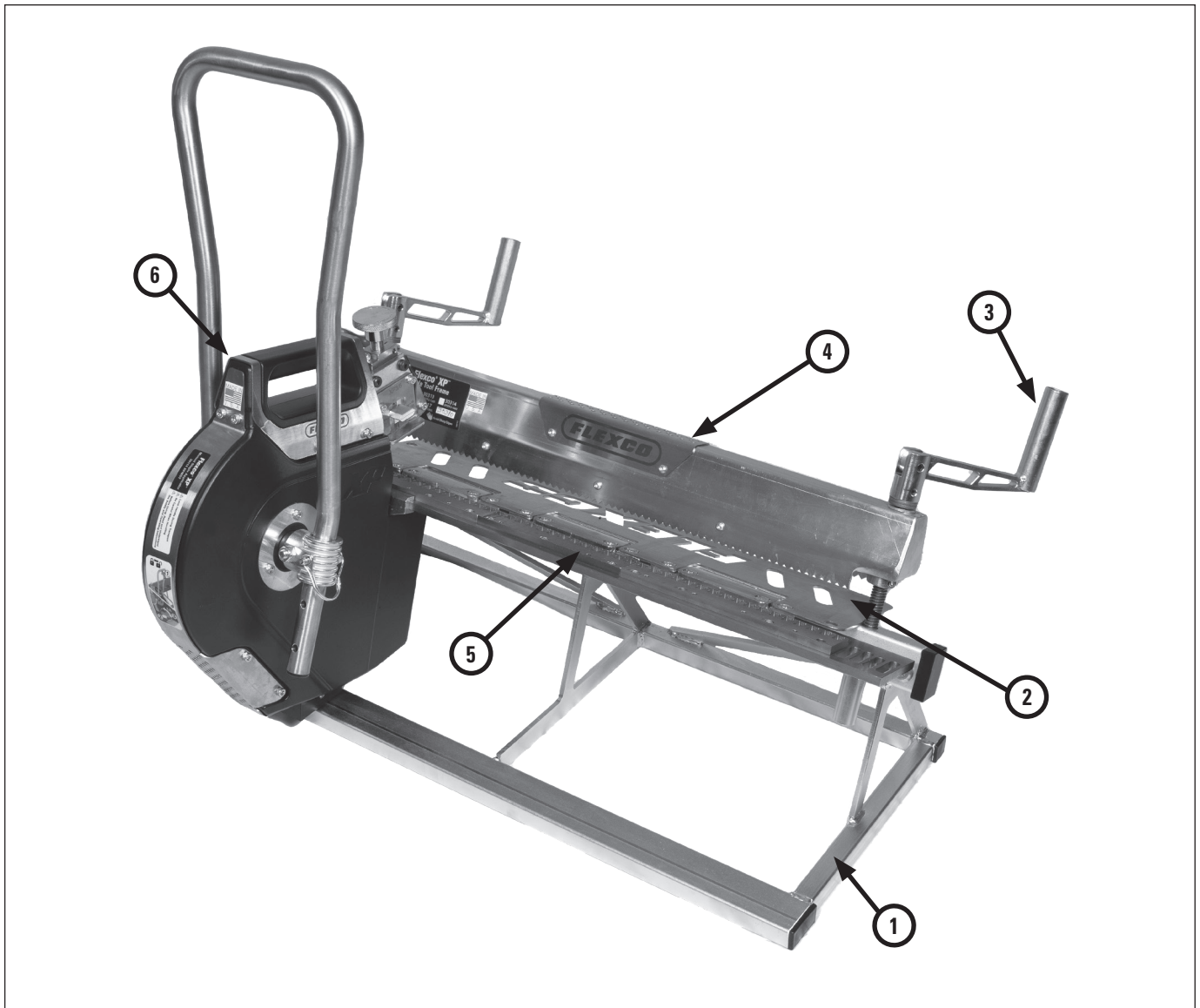
Flexco® XP™ Manual Staple Applicator	
1. Advance/setting handle	6. Advance mechanism lever
2. Carrying handle	7. Handle length adjustment pin
3. Fastener compression adjustment knob and lock	8. Handle lock
4. Integrated belt thickness gauge	9. Fastener selection gauge
5. Mounting bracket	



Manual Flexco® XP™ Staple Fastener System

System Components *(continued)*

Flexco® XP™ Staple Tool Frame	
1. Frame	4. Clamp bar
2. Belt guide plate	5. Bed
3. Clamp bar handle	6. Manual staple applicator

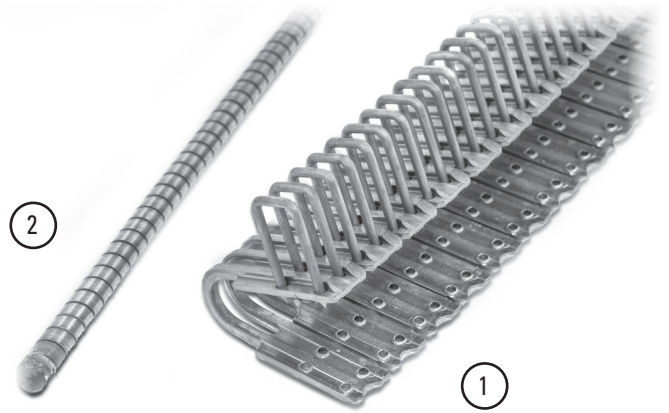


Manual Flexco® XP™ Staple Fastener System

System Components *(continued)*

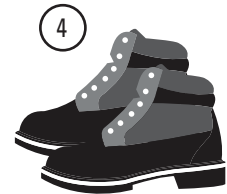
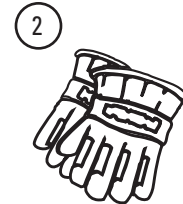
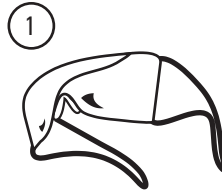
Flexco® XP™ Staple Fasteners

- | |
|--------------------|
| 1. Fastener Strips |
| 2. Hinge Pin |



Protective Equipment

- | |
|-----------------------|
| 1. Safety Glasses |
| 2. Gloves |
| 3. Hearing Protection |
| 4. Safety Shoes |



General Safety Rules – Save These Instructions

Signal words

“DANGER” indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury. The signal word is limited to the most extreme situations.

“WARNING” indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

“CAUTION” indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury. It may also be used to alert against unsafe practices.

International Safety Symbol



This international safety symbol is used to identify and call attention to specific safety matters.

Safety Information

To Avoid Severe Personal Injury or Property Damage, read carefully and understand the following Safety Precautions.

1. WORK AREA SAFETY

DANGER

Never repair conveyors before applying OSHA Lock-Out/Tag-Out protocols, see 29 CFR 1910.147(a)(1) (i).

Do not allow bystander, visitor, or children in work area during tool operation.

WARNING

Store tools outside the reach of children and untrained persons. Tools are dangerous in the hands of unskilled users.

CAUTION

Keep work area clean and well lit. Clutter and dark areas invite accidents.

2. PERSONAL PROTECTIVE EQUIPMENT

WARNING

EYE PROTECTION which conforms to ANSI specifications and provides protection against flying particles both from the FRONT and SIDE should ALWAYS be worn by the operator and others in the work area. Eye protection is required to guard against flying debris, which could cause severe eye injury.

The employer and/or user must ensure that proper eye protection is worn. Eye protection equipment must conform to the requirements of the American National Standards Institute, ANSI Z87.1 and provide both frontal and side protection. NOTE: Non-side shielded spectacles and face shields alone do not provide adequate protection.

CAUTION

HEARING PROTECTION will be required in some environments. For example, the working area may include exposure to noise level which can lead to hearing damage. The employer and user must ensure that any necessary hearing protection is provided and used by the operator and others in the work area.

General Safety Rules *(continued)*

CAUTION

HEAD PROTECTION – Some environments will require the use of head protection equipment. When required, the employer and user must ensure that head protection conforming to ANSI Z89.1 is issued.

FOOT PROTECTION – Safety footwear should always be worn. Operators must be protected against falling tools, stepping on nails, and slippery conditions.

HAND PROTECTION – Safety gloves should always be worn against hot surfaces and other sharp objects.

3. PERSONAL SAFETY

WARNING

Do not use in explosive environments as this may result in serious personal injury.

Always handle the tool with care: 1.) Never engage in horseplay; 2.) Never pull the advance/setting handle unless the applicator is loaded onto the bed/frame base; 3.) Keep others a safe distance from the tool while tool is in operation as accidental actuation may occur, possibly causing injury; 4.) Never place a hand or any part of body in the downward path of the head applicator.

Do not operate the equipment if you are:

1.) Taking medication, feeling drowsy, feeling unwell or feeling tired; 2.) Under the influence of drugs or alcohol; 3.) Experiencing pain in hands, feet, lower back, or other parts of your body hurt or are injured. Failure to observe this precaution can result serious injury or even death.

When using the machine to perform work-related activities, you may experience discomfort in the hands, arms, shoulders, neck, or other parts of the body: 1) Adopt a comfortable posture while maintaining secure footing and avoid awkward off-balanced postures; 2) Changing posture during extended tasks may help avoid discomfort and fatigue; 3) In case of persistent or recurring symptoms, consult a qualified health professional.

When lending someone the equipment, make sure the safety instructions have been thoroughly read and fully understood by the person who is going to use the equipment.

4. INITIAL EQUIPMENT STATUS

DANGER

This manual tool is only designed to be used to install Flexco® XP™ staple fasteners. Do not operate manual applicator unless it is loaded onto the bed/frame base.

WARNING

At the beginning of each shift, conduct a TOOL OPERATION CHECK: 1) Remove all fasteners from tool before performing tool operation check; 2.) Do not use if there is damage to the tool.

At the end of operation, secure the tool to prevent unauthorized use. Never assume you will find the equipment in the same condition in which you left it.

CAUTION

Always carry the tool by the carrying handle. Lock advance/setting handle during transit.

Do not alter or modify this tool from the original design or function without approval from FLEXCO.

Always be aware that misuse and improper handling of this tool can cause injury to yourself and others.

5. MAINTENANCE SAFETY

CAUTION

REPLACEMENT PARTS – FLEXCO replacement parts are recommended. Do not use modified parts or parts which will not give equivalent performance to the original equipment.

Operational Instructions

Tool Inspection

Examine the tool before applying fasteners.

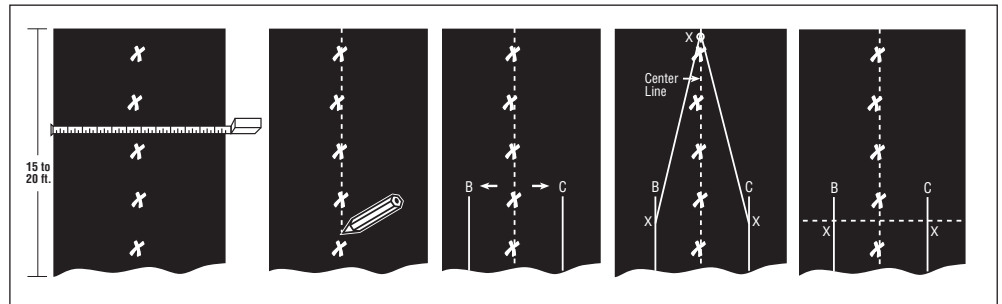
- Clean any dirt build-up from the bed rails.
- Check the applicator to make sure the mounting brackets are free from dirt build-up.
- Check for any nicks in the bed that may interfere with the movement of the head. Should any nicks be found, they should be filed off before using the tool.
- Ensure applicator moves freely on bed. If not spray SLP5 GLIDE silicone lubricant on bed rails and mounting brackets for smoother operation.
- Inspect swipe arms, pusher tip and front/rear locator prongs for damage, chips or cracking. Replace damaged parts by authorized distributor.

Belt Fastener Selection

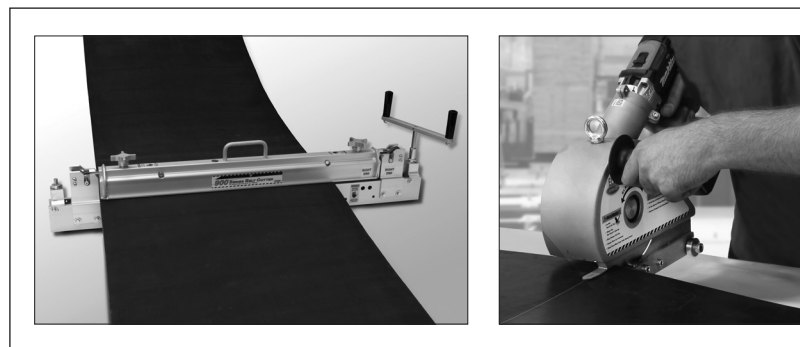
Flexco® XP Staple Belt Fastener Selection Chart								
Fastener Size	Belt Strength up to	Tension Rating up to	Belt Thickness After Skive		Recommended Min. Pulley Diameter		Max. Hinge Pin Diameter	
	kN/m	PIW	mm	in.	mm	in.	mm	in.
XP3	1400	800	6-9	1/4 – 11/32	250	10	5.5	7/32
XP3-L	1400	800	8-11	5/16 – 7/16	250	10	5.5	7/32
XP5	2000	1150	9-12	11/32 - 15/32	350	14	8.1	5/16
XP5-L	2000	1150	11-14	7/16 - 9/16	350	14	8.1	5/16
XP7	3500	2000	13-16	1/2 - 5/8	500	20	10.3	13/32
XP8	3500	2000	15-18	19/32 - 23/32	500	20	11.0	7/16
XP8-L	3500	2000	17-20	21/32 - 25/32	500	20	11.0	7/16

Belt Preparation

1. Square belt ends using the centerline method.



2. Cut each belt end at the square line
- Cut belt at least 6" (150 mm) behind old splice using Flexco belt cutting tool

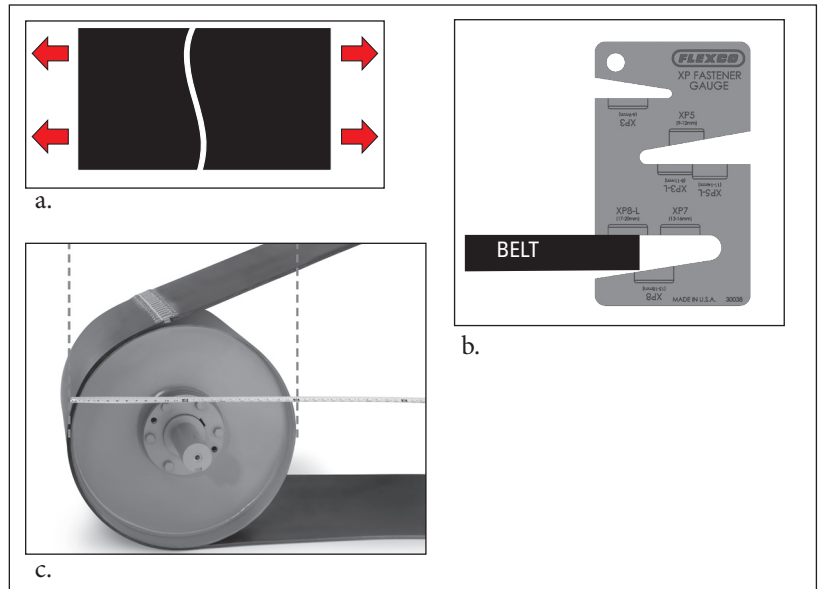


3. Skive each belt end
- Use fastener selection gauge to determine how much to skive if only one fastener size is available
 - Leave a minimum of 1/16" (1.5mm) cover **after skive**
 - Skive to correct fastener size/width



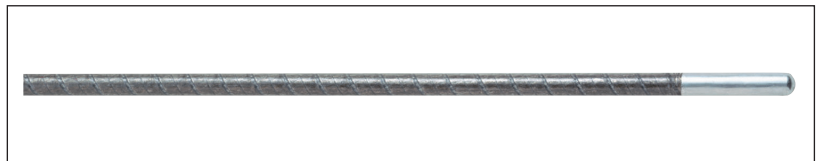
Product Selection

1. Select the correct fastener size and material for the application (refer to fastener selection chart on page 8).
 - a. Use belt strength or tension rating
 - b. Measure belt thickness after skive
 - Use the fastener selection gauge to determine correct fastener size
 - c. Determine minimum pulley diameter (90° or greater wrap)



2. Select the correct size hinge pin and material for the application.

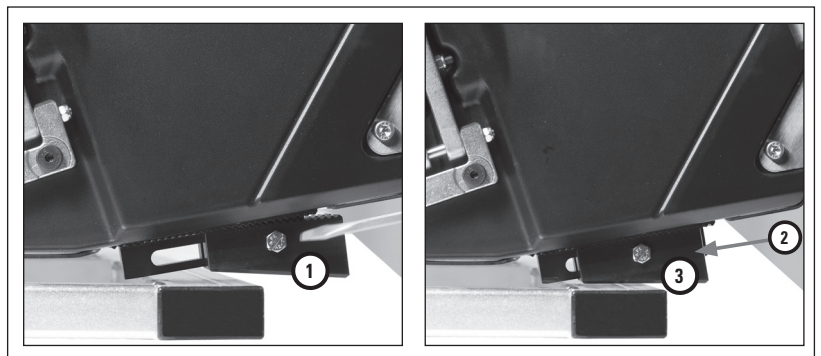
NOTE: Never cut the hinge pin ends shorter unless the ends are re-welded. This can cause the armor cable to loosen.



Tool Setup

Adjust the foot support on the bottom of the tool for each tool frame. **This ensures the tool has a positive stop during installation.**

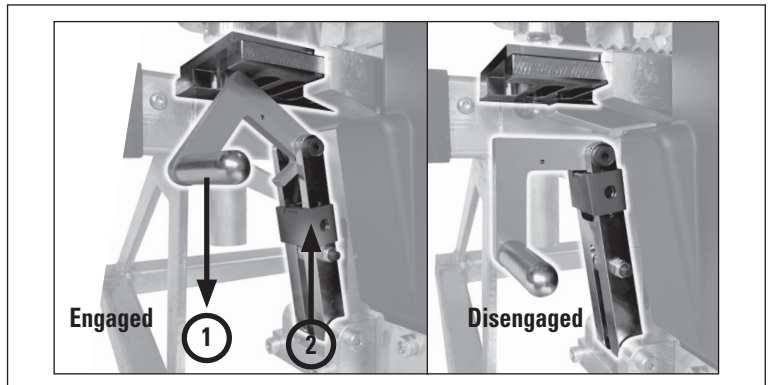
1. Loosen the screw.
2. Push the foot support forward against the tool frame.
3. Retighten the screw.



Basic Tool Operations

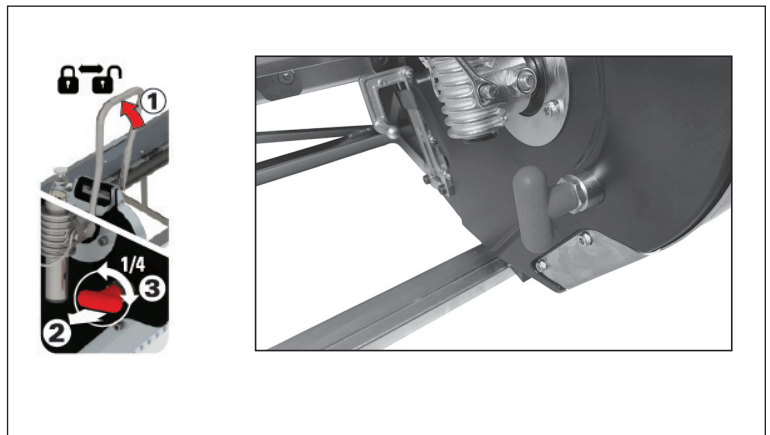
1. How to move the applicator tool on the bed.
 - **Slide the tool to the right** by continuing to push it across the bed.
 - **Slide the tool to the left** by disengaging the advance mechanism lever and pushing the tool to the left.

NOTE: Ensure the advance/actuation handle is in the locked position or the tool will not slide. (See next step.)



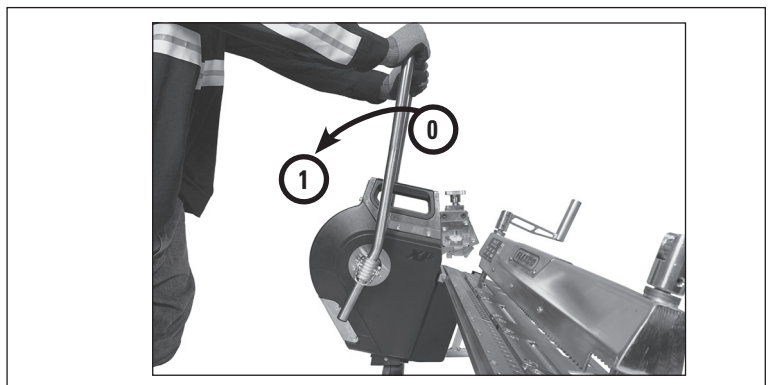
2. How to **unlock** the advance / actuation handle
 - a. Push and hold the handle all the way forward.
 - b. Pull T-knob lock away from tool.
 - c. Turn ¼ turn until T-knob stays in the **out position**.

3. How to **lock** the advance / actuation handle
 - a. Push and hold the handle all the way forward.
 - b. Pull T-knob lock away from tool.
 - c. Turn ¼ turn until T-knob returns to the **in position**.



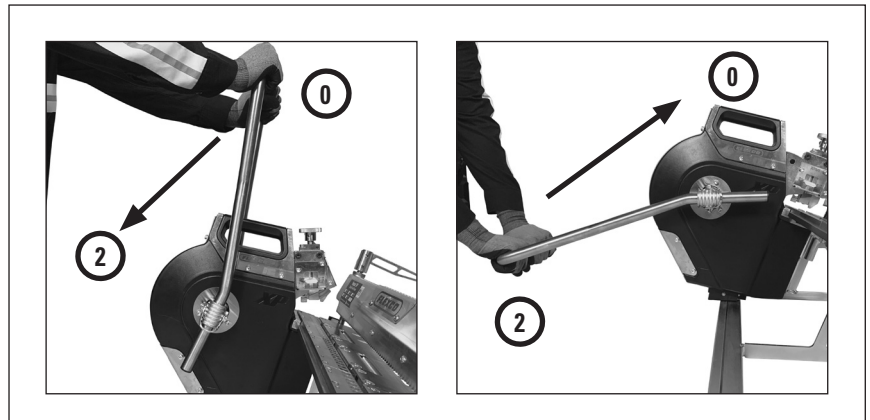
4. How to rapid advance the tool.
 - To use the rapid advance feature, move the advance/actuation handle from start position "0" to position "1" and repeat to quickly advance the tool.

NOTE: If tool binds during advance – spray bed with SLP5 GLIDE.



Basic Tool Operations *(continued)*

5. How to operate the tool for fastener installation
- Position tool so it is one H-hole before first fastener plate.
 - Move the advance/actuation handle from position “0” to end of travel (position “2”). **Ensure handle can’t be pressed down any further.**
 - Push the advance/actuation handle forward (position “0”). This action completes the drive cycle.

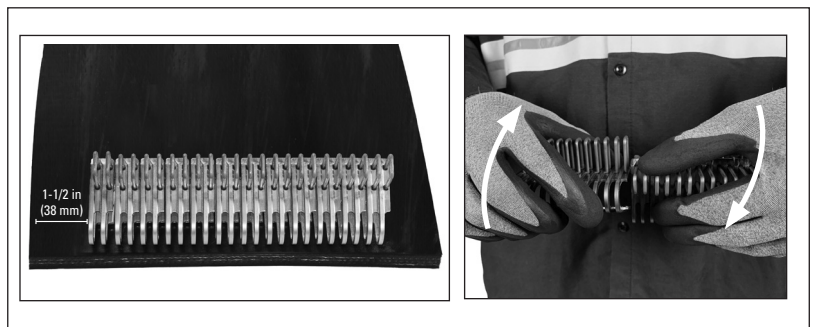


Best Practices

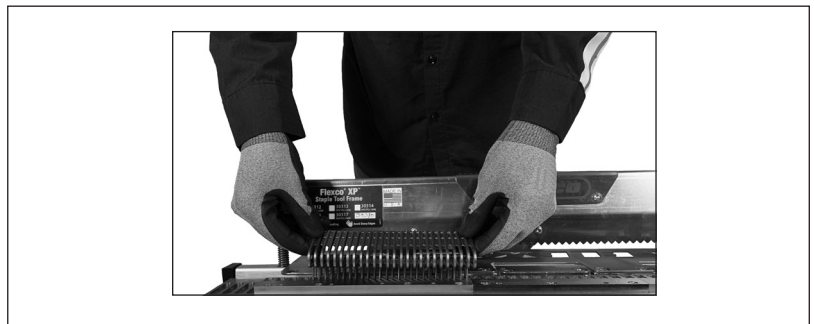
1. Use XPLT XP-LOK™ Tensioner and XPLW-120 XP-LOK™ Belt Wire to prevent belt wave and ripple on rubber plied belting.
2. Always perform a test sample to verify proper belt thickness setting before completing final installation. A final adjustment may be necessary after the first few fasteners have been installed. The leading edge of the fastener must be set tight on the belt – **Do not over compress.**

Installation Instructions

1. Determine the exact number of fasteners needed for the belt width.
 - Lay fastener strips across the belt width. Center fasteners so that approximately 1-1/2 inches (38 mm) of belt extends beyond the fasteners on each edge.
 - If a shorter fastener strip is needed, hold strip in one hand and carefully twist the strip with the other hand.

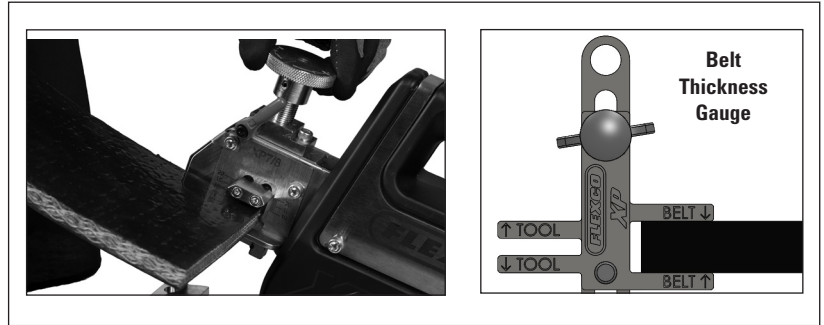


2. Load the fastener strips in the tool bed.
 - **Without XP-LOK™** Make sure the fastener strips are **centered** on the tool bed.
 - **With XP-LOK™** Make sure the fastener strips are placed **on the right side** of the tool bed – **leave 2-3 empty H-holes.**
 - Make sure the fastener strips are fully seated down in the tool bed.

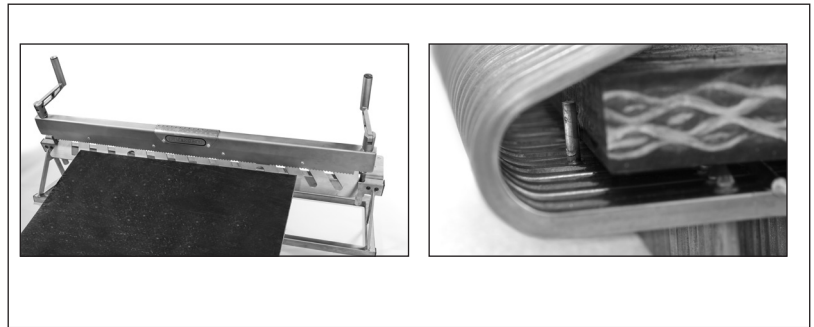


Installation Instructions *(continued)*

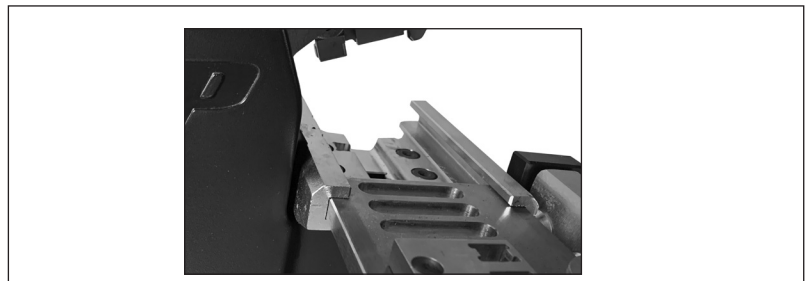
3. Set the applicator tool for correct belt thickness **after skive**.
- Use scrap belt from conveyor that matches each belt end or use the actual belt on the conveyor (Alternatively: use Belt Thickness Gauge if available).
 - Use the correct side of the belt thickness gauge for the corresponding fastener size.
 - **Set tool for every belt end** and check thickness on **ends and middle of the belt**. (Belt thickness may vary due to wear and manufacturer).



4. Load the belt into the fasteners.
- Slide the belt on the extended guide plate into the fastener belt stops.
 - Make sure the belt is centered within the fasteners.
 - Tighten clamp bar evenly and securely.

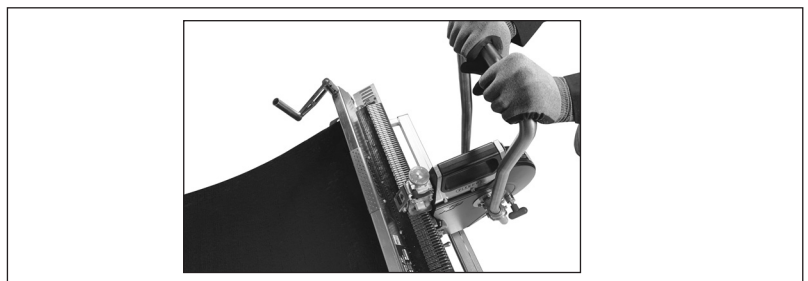


5. Load applicator tool on the tool bed.
- **Ensure the advance/actuation handle is in the start position.**



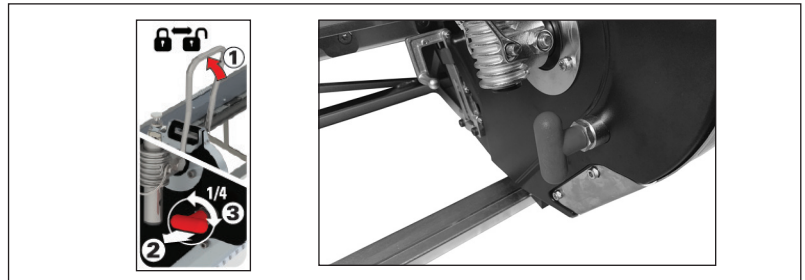
6. Install fasteners with the applicator tool.
- Make sure applicator tool cycles completely.
 - Examine the first fasteners to ensure good fastener compression.

NOTE: If belt is worn the belt thickness gauge on the tool may need to be adjusted tighter for the thinner areas.

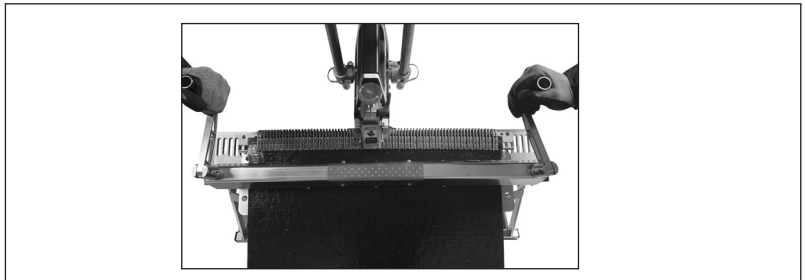


Installation Instructions *(continued)*

- 7. **Lock** the advance/acuation handle.
 - a. Push and hold the handle all the way forward.
 - b. Pull T-knob lock away from tool.
 - c. Turn 1/4 turn until T-knob returns to the **in position**.



- 8. Loosen the belt clamp bar and remove the belt from the tool bed.

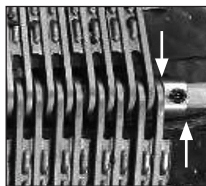
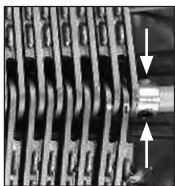
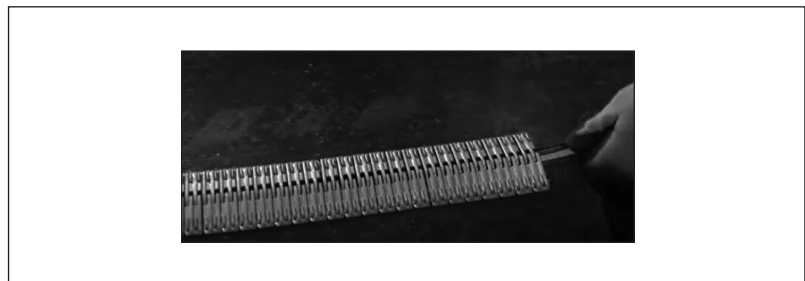


- 9. Repeat steps for the other belt end.

Make sure to set the applicator tool for the correct belt thickness on the other belt end

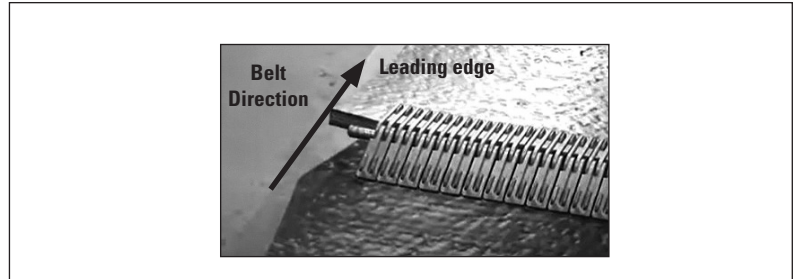
- 10. Bring both belt ends together and insert the hinge pin.

- **Make sure the fastener plates match up on both belt ends** – Correct fastener matching allows the splice to flex without restriction while troughing.

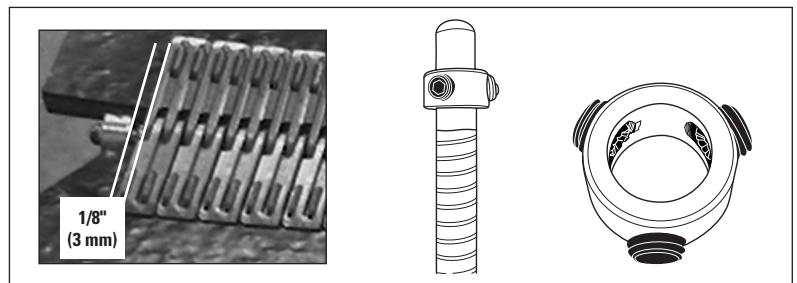


Installation Instructions *(continued)*

11. Notch the **trailing edge** of the belt only.
- Notching is important to prevent the belt ends from catching on structure if belt mistracks.
 - Only notch the trailing edge so the leading edge can protect the splice from belt mistracking damage.



12. Install hinge pin retaining collars on each end of the splice.
- Leave a **minimum of 1/8" (3 mm)** spacing from edge of fastener plate to edge of collars.
 - This spacing allows the splice to flex without restriction while troughing.



Troubleshooting

Problem	Cause	Correction
Pull advance/setting handle but applicator does not advance	<ol style="list-style-type: none"> 1. Advance mechanism lever was in disengage position 2. Advance/setting handle was not pulled down to position "1" to complete advance cycle 3. Advance/setting handle was not fully pushed forward (position "0") to engage advance mechanism 4. Bed rails are dirty 5. Advance mechanism lever spring was not in position or damaged (Rare) 	<ol style="list-style-type: none"> 1. Engage advance mechanism lever 2. Pull handle down to position "1" 3. Push handle forward all the way to complete cycle 4. Clean surfaces and spray SLP5 GLIDE silicone lubricant on bed rails and mounting brackets 5. Adjust or replace spring
Staple legs are pushed up but staples are only partially bent over	<ol style="list-style-type: none"> 1. Operator did not pull handle to "position 2" 	<ol style="list-style-type: none"> 1. Pull advance/setting handle down to position "2"
Staple legs are pushed up but staples are not bent over	<ol style="list-style-type: none"> 1. Damaged swipe arms 2. Damaged swipe linkages 	<ol style="list-style-type: none"> 1. Replace swipe arms by authorized distributor 2. Replace swipe linkages by authorized distributor
Staple legs are pushed up but staples are not completely set	<ol style="list-style-type: none"> 1. Fastener compression was incorrectly set (under-compress) 	<ol style="list-style-type: none"> 1. Adjust fastener compression by turning the adjustment knob ¼ turn to right (clockwise) and repeat as necessary
Belt has too much ripple or wave	<ol style="list-style-type: none"> 1. Fastener compression was incorrectly set (over-compress) 2. Using rubber plied belting 	<ol style="list-style-type: none"> 1. Adjust fastener compression by turning the adjustment knob ¼ turn to left (counter-clockwise) and repeat as necessary 2. Use XPLT XP-LOK™ Tensioner and XPLW-120 XP-LOK™ Belt Wire to prevent belt wave and ripple
Cannot load applicator onto frame	<ol style="list-style-type: none"> 1. Pilot punch is in up position 2. Mounting brackets are not aligned properly 	<ol style="list-style-type: none"> 1. Push advance/setting handle to position "0" prior to loading onto frame 2. Inspect and verify mounting brackets are properly installed