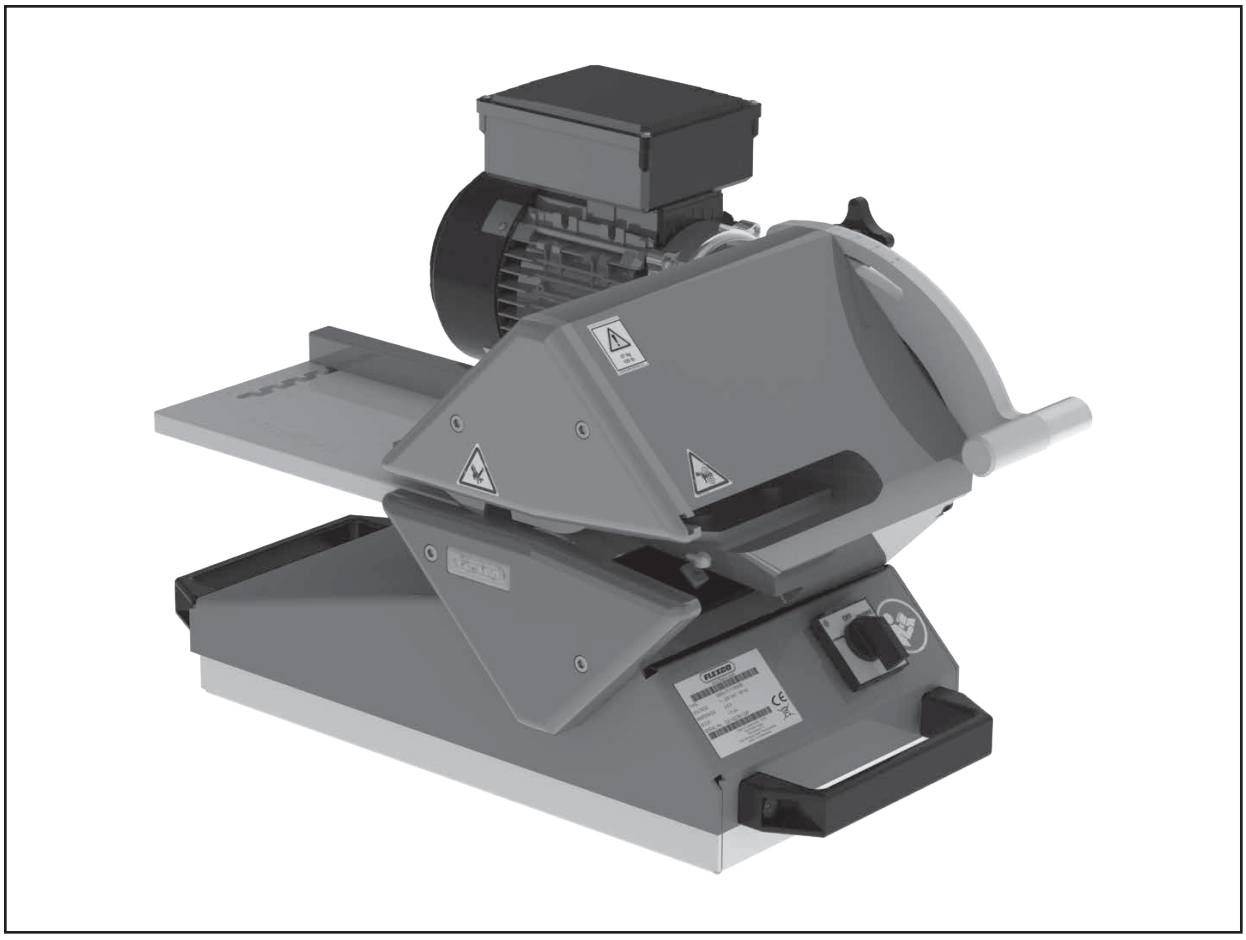
FLEXCO

Novitool® Ply 130™ Separator Low Volume Step Cutter Blade Safety and Operation Manual

Separate between the plies of a conveyor belt.



WARNING

IMPROPER OR UNSAFE 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.

Table of Contents

Main Components Ply 130™ 3

Main Components Ply 130™ Step Cutter 3

Description 5

General Safety Rules 6

Installation of New Faceplate - Retrofit Kit Only 10

Installation of Scale - Retrofit Kit Only 12

Installation of Low Volume Step Cutter 13

Troubleshooting 18

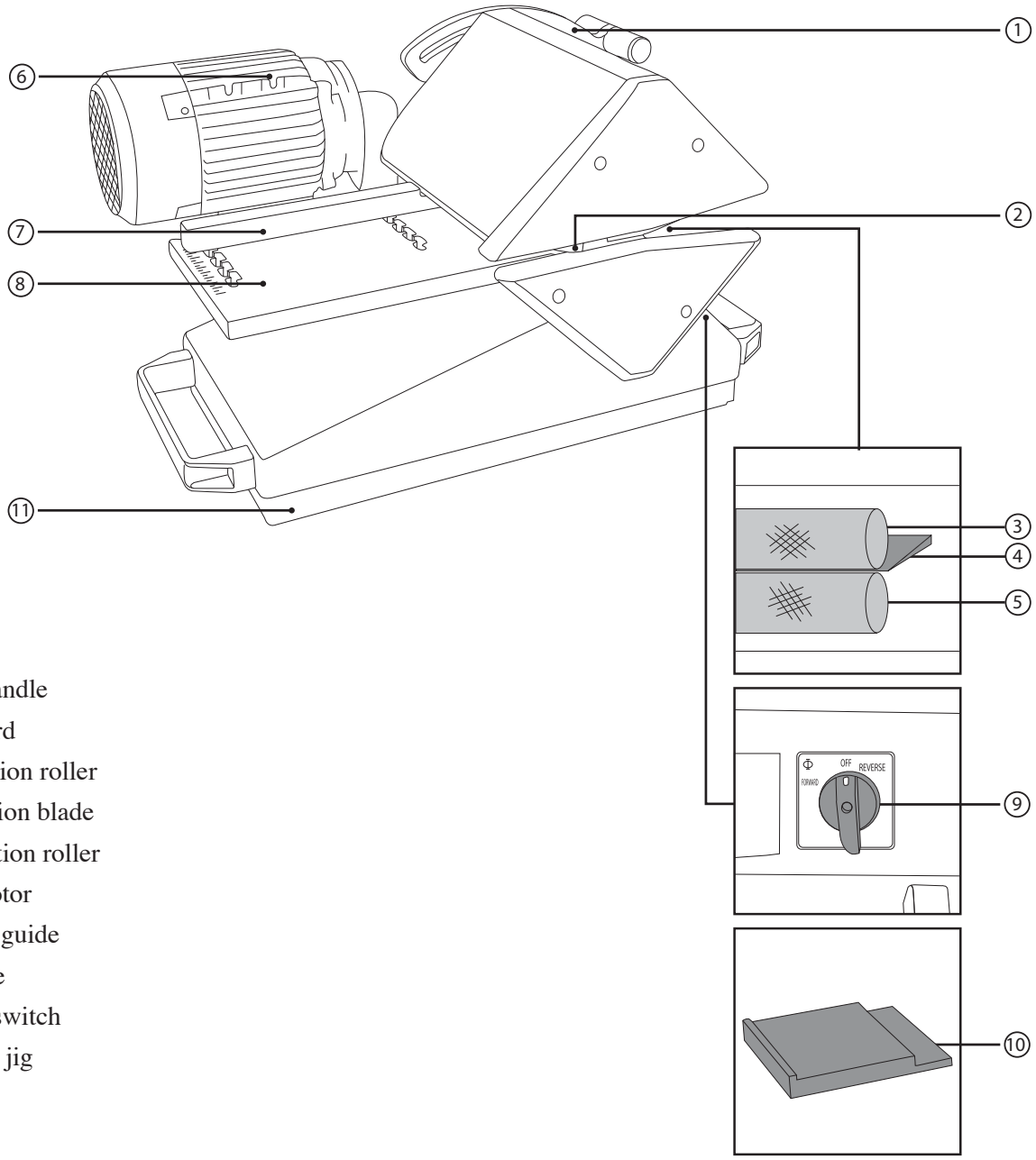
Ply 130™ Maintenance - Measure and Adjust Blade/Roller Clearance as Necessary 19

Parts Lists 28

Technical Assistance 29

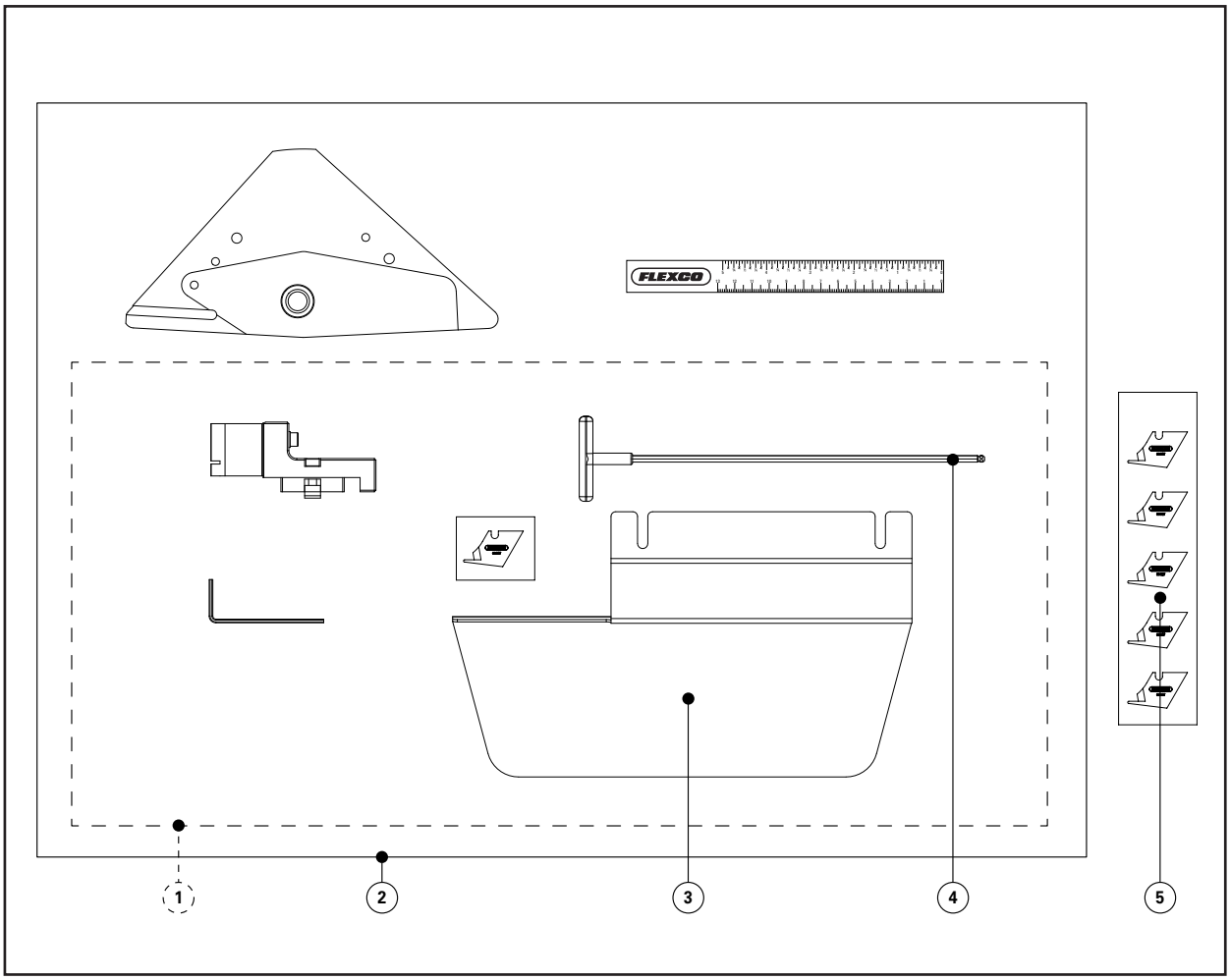
Disclaimer The Ply 130™ ply separator has been tested successfully with different belt types. However this is no guarantee for good results. Fabricating belts does require the operator to master skills and have a certain level of craftsmanship. Results also depend on good practice, material composition and sharpness of blade. If results are not as expected, please contact Flexco.

Main Components Ply 130™



1. Adjuster handle
2. Finger guard
3. Upper traction roller
4. Ply separation blade
5. Lower traction roller
6. Electric motor
7. Adjustable guide
8. Infeed table
9. Operating switch
10. Calibration jig
11. Ply tray

Main Components Ply 130™ Step Cutter



No.	Item No.	Description
1	08501	PLY130-STEPCUT
2	08499	PLY130-STEPCUT-RETROFIT
3	08498	PLY130-STEPCUT-GUIDE-EXT
4	08500	PLY130-STEPCUT-TWRENCH
5	08497	PLY130-STEPCUT-BLADES (5)

Description

The Ply 130™ is used to separate between the plies of a thermoplastic conveyor belt, PVC or polyurethane. This splitting action is often required in preparation before splicing a belt with a splice press.

A great advantage of this ply separator is that it can split as deep as 5" (130 mm) in one pass.

The robust construction of the Ply 130™ allows for precise separating of thermoplastic belts – both thin and thick between plies as little as 0.014" (0.35 mm) can be separated.

The Ply 130™ can be used to prepare finger over finger splices and stepped splices. With the adjuster handle you determine the depth to split the belt. It may be possible to split between every ply of the belt and in this way to generate two or three separations within one belt.

The low volume step cutter blade separates stepped edges. The layer passing above the separation blade is cut off simultaneously

Tool Specifications

Ply 130™ Tool Specifications		
Specifications	**Minimum**	**Maximum**
Splitting Depth	1.5" (40 mm)	5.1" (130 mm)
Belt thickness above cut	.014" (0.35 mm)	.3" (8 mm)
Belt thickness below cut	.014" (0.35 mm)	.2" (5 mm)
Maximum belt thickness	N/A	.4" (10 mm)
Tool dimensions	22" x 19" x 14" (560 x 480 x 360 mm)	
Tool weight	125 lbs (57kgs)	

Ply 130™ Ordering Information			
Item Code	**Ordering Number**	**Mark**	**Plug**
Ply 130™			
08800	PLY130-230V+N1PH50HZ-SCHUKO	CE	
08801	PLY130-400V+NV3PH50HZ-IEC60309	CE	
08802	PLY130-115V1PH60HZ-NEMA-5-15	cETL	
08803	PLY130-230V1PH60HZ-NEMA-L6-20	cETL	
08804	PLY130-230V1PH60HZ-NEMA-L6-30	cETL	
08805	PLY130-230V1PH60HZ-NEMA-L6-15	cETL	
08806	PLY130-230V1PH60HZ-NEMA-6-15	cETL	
08807	PLY130-230V1PH60HZ-NEMA-6-20	cETL	
08808	PLY130-230V1PH60HZ-NEMA-6-30	cETL	
08809	PLY130-230V3PH60HZ-NEMA-L15-20	cETL	
08810	PLY130-230V3PH60HZ-NEMA-L15-30	cETL	
08811	PLY130-460V3PH60HZ-NEMA-L16-20	cETL	
08812	PLY130-460V3PH60HZ-NEMA-L16-30	cETL	
08832	PLY130-230V1PH50HZ-IEC60309-16	CE	
08833	PLY130-230V1PH50HZ+N-BS1363-13	CE	
08834	PLY130-230V3PH60HZ-NEMA-18-20		
Cart			
08100	PLY130-CART		N/A
Replacement Blades			
08014	PLY-BL-BLADE-&-JIG-KIT		N/A
08490	PLY130-BLADE		N/A

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.

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

⚠CAUTION

Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents.

⚠DANGER

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.

⚠CAUTION

Keep bystanders, children, and visitors away while operating a power tool. Distractions can cause you to lose control.

⚠WARNING

Never leave tool until it comes to a complete stop.

⚠WARNING

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

2. ELECTRICAL SAFETY

⚠DANGER

The Ply Separator is a single insulated tool and needs a multiple wire grounded power cord and grounded power supply system. The machine is provided with an electrical plug to ensure connection to the proper supply power.

⚠WARNING

Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increased risk of electric shock.

⚠WARNING

Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock and will damage the tool.

⚠DANGER

Do not abuse the cord. Never use the cord to carry the tool or pull the plug from a receptacle. Keep cord away from heat, oil, sharp edges, or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

⚠WARNING

Do not use outdoors. This power tool is designed for indoor use only.

⚠WARNING

Do not use tool if switch does not turn it on or off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect machine from supply circuit before servicing. Ensure all protective ground connections are in place after service. Replace fuses only with those of the same current rating, interrupt rating, voltage rating and construction.

3. PERSONAL SAFETY

⚠WARNING

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.

⚠WARNING

Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts.

⚠WARNING

Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

⚠WARNING

Do not overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control of the tool in unexpected situations.

⚠CAUTION

Use safety equipment. Always wear eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

⚠WARNING

Never alter or remove safety devices.

⚠WARNING

Keep your hands and fingers away from all moving and sharp parts, e.g. rolls and blade, at all times.

⚠WARNING

Engage caster locks on cart when not transporting

⚠WARNING

Machine is heavy. Use lifting aids.

4 TOOL USE AND CARE

⚠WARNING

Always use the ply separator on a level, firm surface. Splitting should be performed operating the machine with two hands on the material.

⚠CAUTION

Do not force tool when the belt material blocks or jams and do not continue feeding the material through tool. When jamed put the operating direction in reverse to remove the material.

⚠WARNING

Do not use tool if switch does not turn it on or off. Any tool that cannot be controlled with the switch is dangerous and must be repaired.

⚠WARNING

Disconnect the plug from the power source before making any adjustments, changing accessories, or storing or transporting the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

⚠WARNING

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

⚠CAUTION

The Ply Separator should not be used to split other materials than thermoplastic belting materials. The thickness of the belting material should never exceed 10 mm.

⚠CAUTION

Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

⚠WARNING

Stow foot switch when not in use.

⚠WARNING

Disconnect and stow cables before moving.

---

5. SERVICE AND MAINTENANCE

⚠WARNING

Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.

⚠WARNING

Disconnect electrical plug from the power supply before opening/servicing the machine.

⚠CAUTION

When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow Maintenance Instruction may create a risk of electric shock or injury.

⚠DANGER

Do not use power tools if the housing is damaged or not closed. Damaged or (partially) open housing can lead to electric shock. Such tools should not be used until repaired or closed.

⚠CAUTION

Do not wipe plastic parts with solvent.
Solvents such as gasoline, thinner, benzene, carbon tetrachloride, and alcohol may damage and crack plastic parts. Do not wipe them with such solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water and dry throughly.

⚠WARNING

NEVER use a tool which is defective or operating abnormally. If the tool appears to be operating unusually, making strange noises, or otherwise appears defective, stop using it immediately, disconnect from power supply and arrange for repairs.

⚠CAUTION

Maintain tools with care. Keep blades sharp and clean. Properly serviced tools and knifes with sharp edges are less likely to bind or create debris and are easier to control.

6. PLY CUTTER SAFETY

⚠WARNING

Make sure that the power cable is not near the material entrance opening.

⚠WARNING

Keep your body positioned perpendicular to the material feeding direction on the opposite side of the electric motor.

⚠WARNING

Keep your hands away from the feeding rolls and splitting area. Always guide the material in a way that your hands have a minimum distance of 3.94" (10 cm) from this area.

⚠CAUTION

Do not use dull or damaged blades/ knives.

7. PLY CART SAFETY

⚠WARNING

Avoid inclines, declines and floor obstructions when pushing cart. Only push cart in directions permitted by fixed casters, never pull or attempt to slide sideways.

8. REPLACING THE BLADE

⚠WARNING

Disconnect power.

⚠CAUTION

Do not attempt to resharpen blades. This will affect splitting completely through belt.

⚠WARNING

Always wear cut-proof safety gloves and safety glasses when replacing blade. Blade is razor sharp, treat it accordingly.

⚠WARNING

Before performing a blade replacement, follow all procedures stated in manual.

⚠WARNING

Only authorized and trained technicians should work on the ply separator.

⚠WARNING

Test the splitter after blade / knife replacements to make sure that it can be used safely.

⚠WARNING

Stow spare blades safely.

Installation of New Faceplate - Retrofit Kit Only

A

Prior to installing the Low Volume Step Cutter, the upper faceplate may need to be replaced. The step cut retrofit kit (08499) is required on Ply 130 separators prior to those with serial number C1-122352-13W.

A1

Caution! Disconnect Ply 130 plug from the power source. Remove the two 5 mm hex screws from existing top faceplate on Ply 130.

A2

Lightly tap at back edge of top faceplate with a rubber mallet until a small opening appears in between the top cover plate and the Ply 130 body. A small rubber tipped chisel may be required if the faceplate is a tight fit.

While tapping back edge of faceplate alternate low pulling force on each side of faceplate until removed. Discard faceplate.

A3

With fingerguard dowel pins properly aligned, mount Step Cutter faceplate flat to Ply 130 body, lightly tapping with plastic hammer if required.

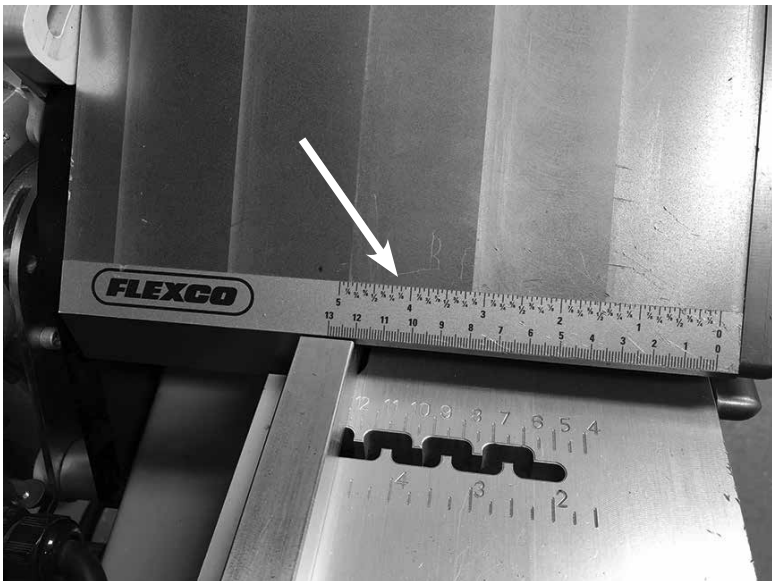
Warning! Do NOT use screws to pull faceplate to Ply 130 body.

A4

Using a hex key, tightly secure the two 5 mm hex screws adhering faceplate to Ply 130 frame.

Installation of Scale - Retrofit Kit Only

B1



Clean top surface of Ply 130 body nearest to infeed table.

Remove backing paper from scale decal and install on Ply 130 body. Align to edge of Ply Separator body.

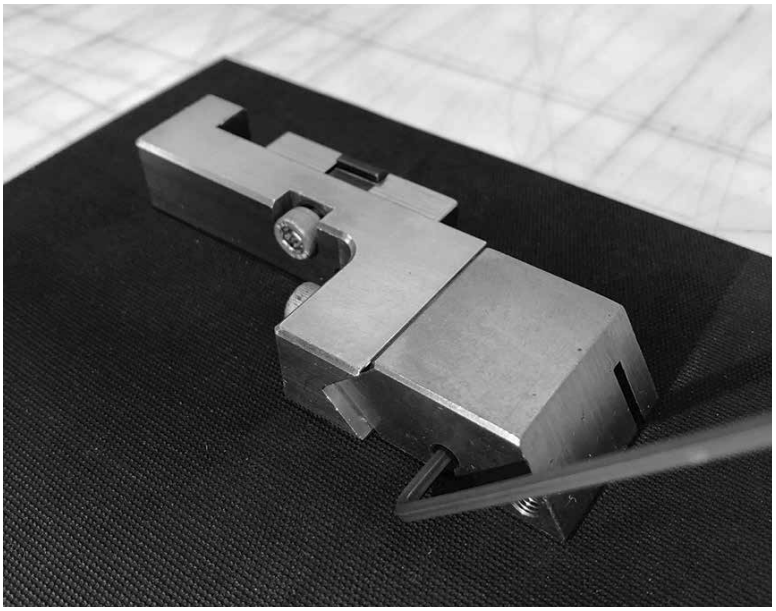
C

Installation of Low Volume Step Cutter

Prior to blade installation ensure:

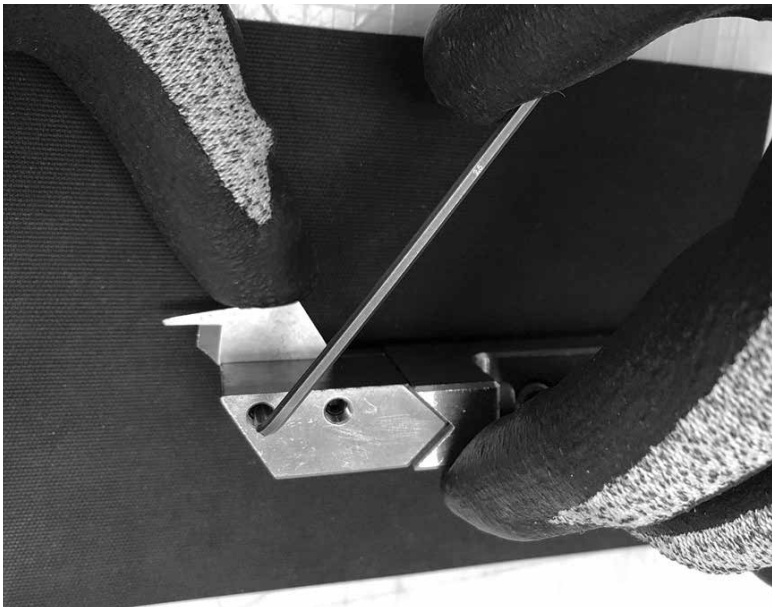
- The power cable is disconnected from the power supply.
- The Low Volume Step Cutter is readily available.
- The operator is wearing cut-proof safety gloves and safety glasses.

C1



Loosen blade retention setscrews using 2.5 mm hex wrench. Do not loosen the flat head screw on opposite side.

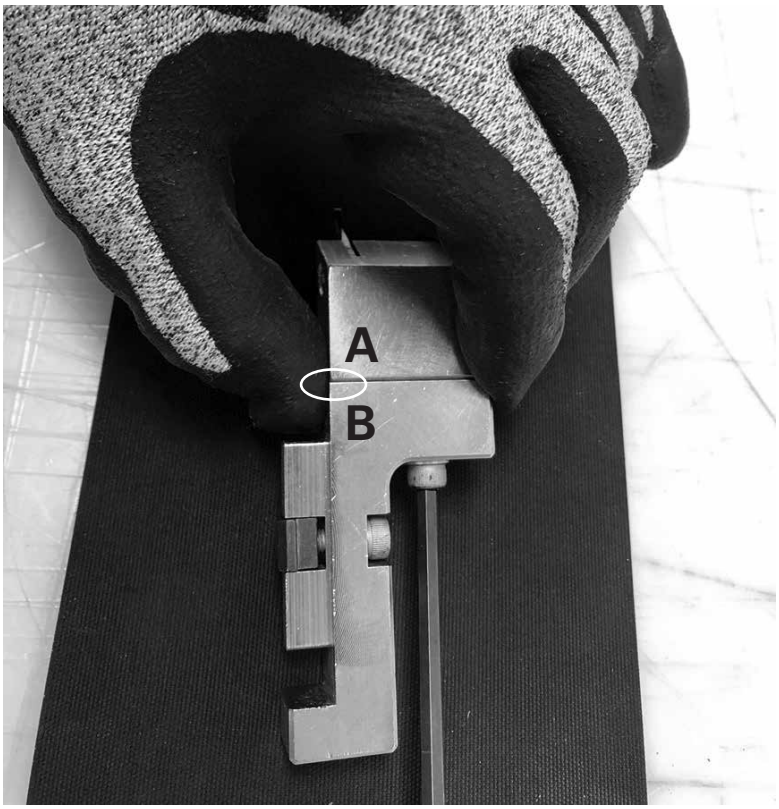
C2



Carefully insert step cutting blade into position, aligning edge of blade even with step cutter face to ensure proper blade position. Tighten blade retention setscrews.

FLEXCO

C3



Ensure that the brass step cutter blade holder (A) is adjusted flush with the T-nut side (B) of the main fixture.

With 4 mm hex key, loosen and laterally position brass step cutter blade holder fixture to main fixture and tighten when flush.

Note: This allows for clearance between the step cutter blade and the ply blade during installation.

C4

Loosen (do not remove) T-nut screw. Align step cutter T-nut with T-groove in faceplate.

C5

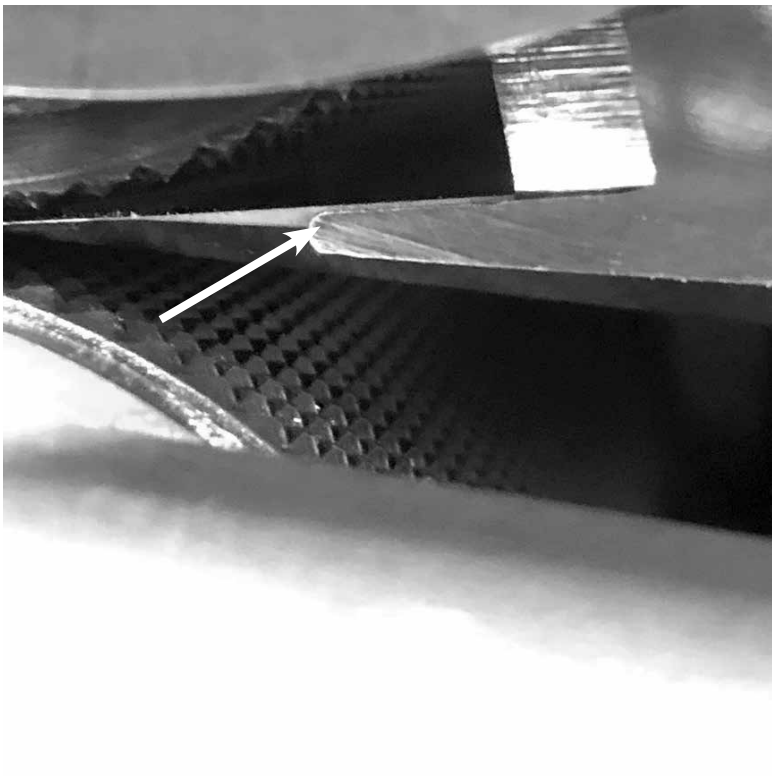
Insert until tab contacts faceplate.

Caution: Step cutter should slide in T-slot with ease and not be forced.

C6

Using the T-handle hex key, tighten Step-Cutter T-nut screw.

C7



Step cutter blade leading guide needs to be flush with the top surface of the standard ply blade or slightly below.

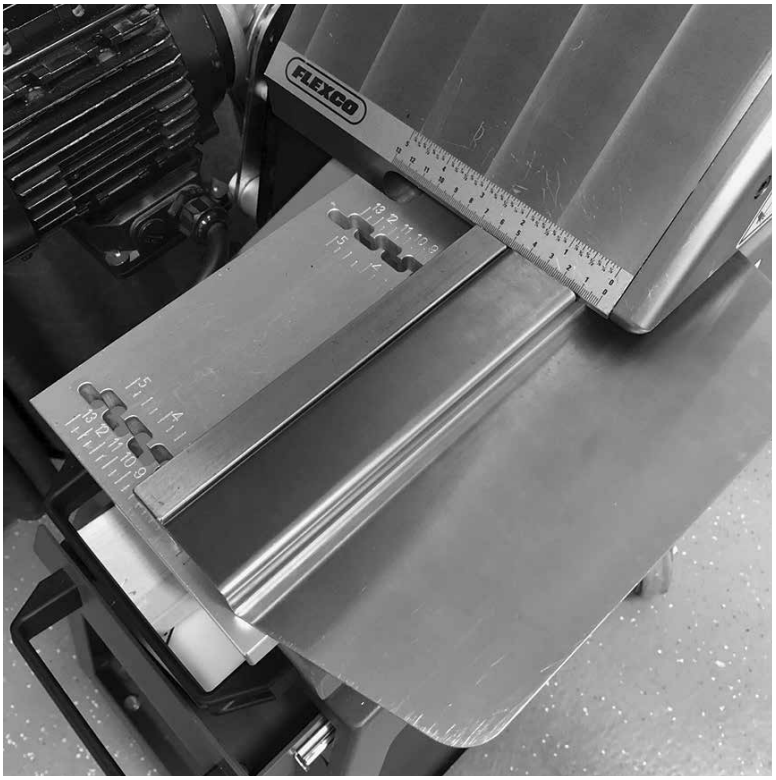
If the leading guide is higher than the standard ply blade, loosen T-nut screw to remove the low volume step cutter from the ply and refer to C2 image that shows two retention setscrews to adjust the guide lower.

C8

If necessary, use the 2.5 mm hex key to loosen screw and adjust lateral position of step-cutting blade up to ply separation blade. Tighten screw to fix blade position. If ply separation blade is replaced (refer to Ply 130™ Safety and Operations Manual for instructions) confirm the lateral adjustment position of step cutting blade. If necessary, use the 2.5 mm hex key to loosen screw and then laterally adjust the step cut blade up to the new ply separation blade.

C9

Install Guide Extension for step cutting less than 1.57" (40 mm). Loosen infeed table clamp nuts. Lift adjustable guide and insert guide extension under adjustable guide. Position guide to desired step cutting depth and tighten clamp nuts.



Troubleshooting

- If the material passing above the ply separation blade is not being cut at the step cutter blade position:
  – fixation screw is loose and Step Cutter may require repositioning, or
  – step cutter blade may require adjustment towards ply separation blade, or
  – step cutter blade may not be seated correctly in the Step Cutter unit, or
  – step cutter blade may be worn, requiring replacement.
- If the belt cover is very thin or has little stability (e.g. w/o fabric), step cut may become wavy. This is subject to the material, machine settings, and can be difficult to avoid.
- If belt material becomes stuck in the ply separator, rotate the Ply 130 power switch to the reverse position, to dislodge the material. Inspect step cutter blade position after dislodging material and making adjustments as needed.

Ply 130™ Maintenance – Measure and Adjust Blade/Roller Clearance As Necessary

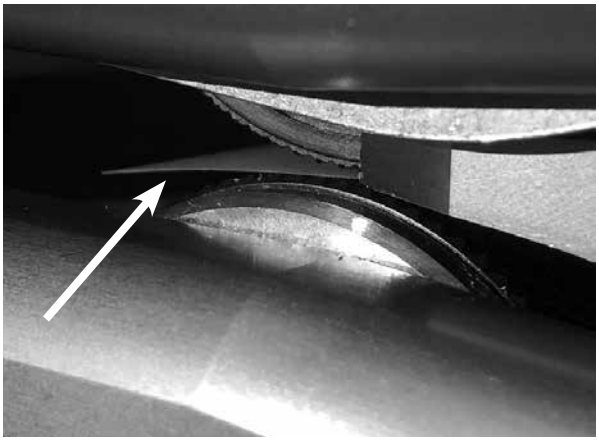
E

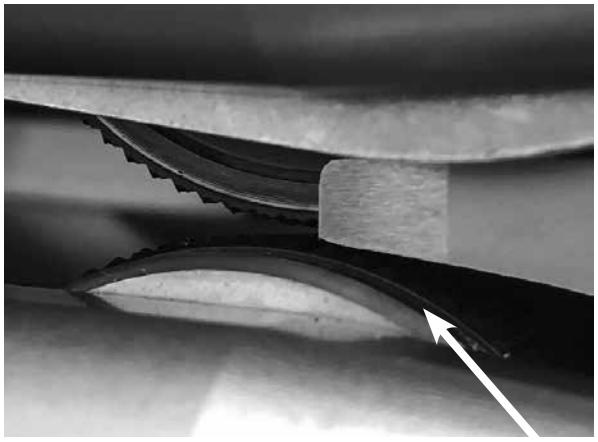
Verify Blade/Roller Clearance:

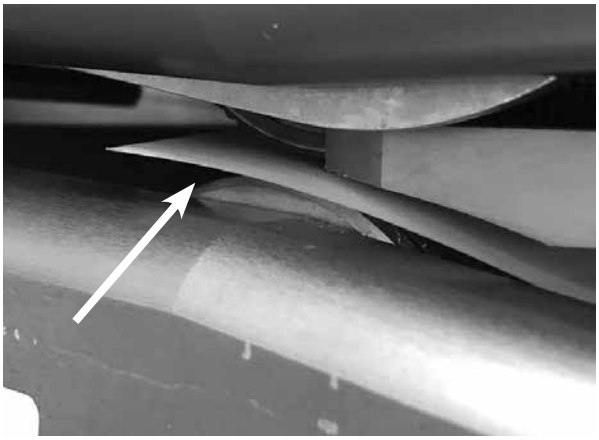
- Disconnect power cable from the power supply.
- After replacing the ply separation blade, it may be necessary to adjust traction roller height.

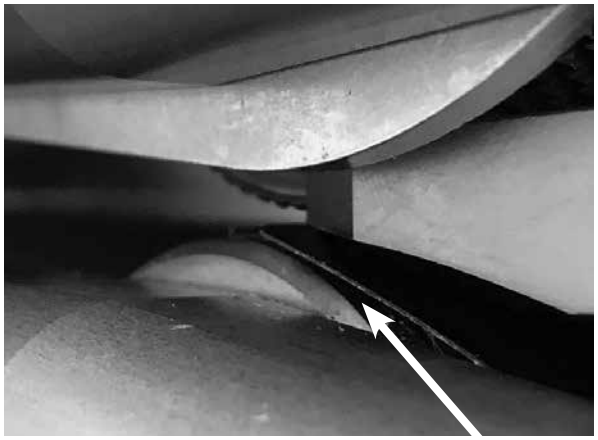
E1

To evaluate clearance between the upper traction roller and top of blade, begin by positioning the adjustment handle to 0. Insert the white thickness clearance shim between the ply separation blade and the top traction roller. The shim should move freely with little resistance. The black clearance thickness shim should not fit between the ply separation blade and the top traction roller. Repeat the same process to evaluate clearance between bottom of blade to lower traction roller.

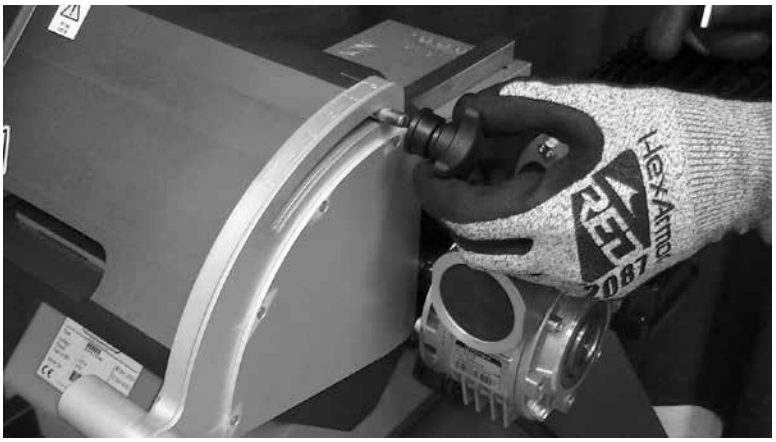








E2

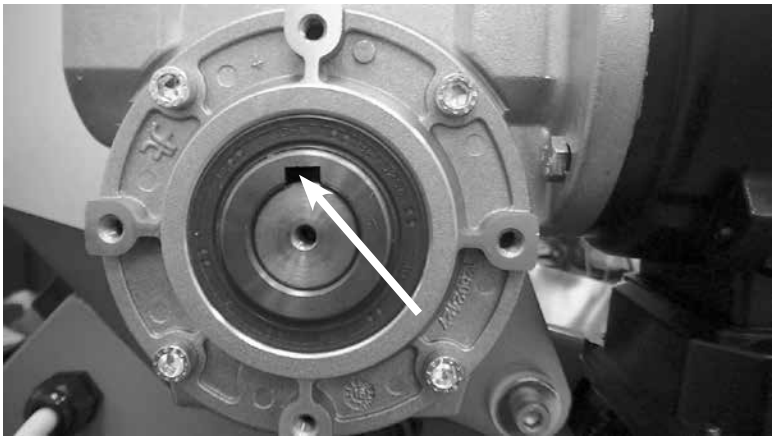


If adjustment is needed, unscrew clamp nut on adjustment guard plate.

E3

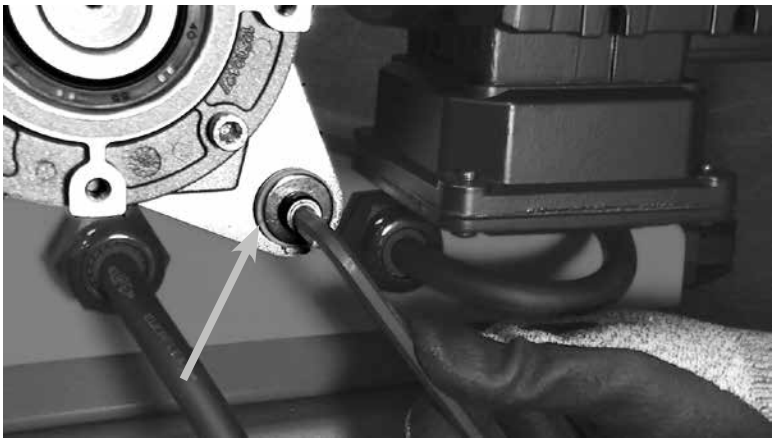
Using a 5 mm hex key, remove the handle.

E4



For easier removal of motor ensure keyway is positioned at top of drive shaft.

E5

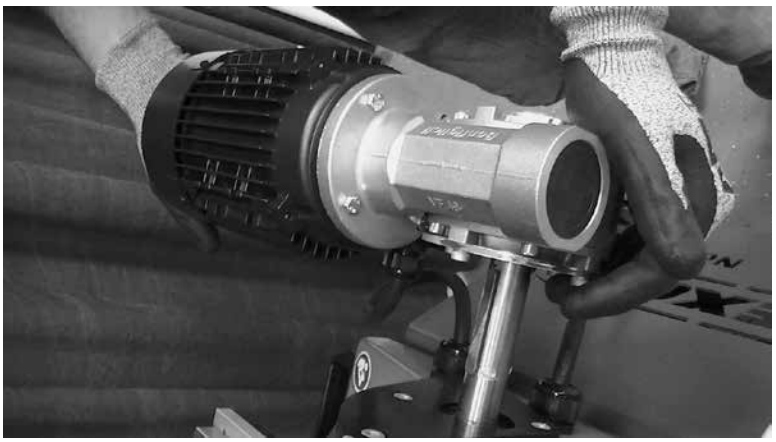


Remove the electric motor to gain sufficient access for adjustment of traction rollers by first removing the torque arm bolt using a 6 mm hex wrench.

E6

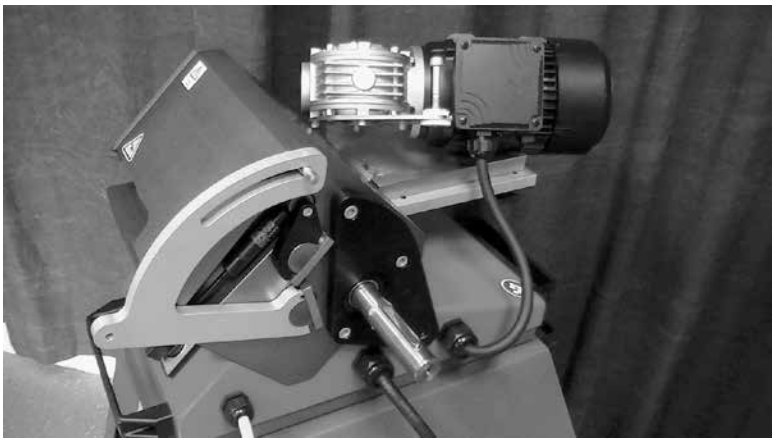
After removal of torque arm bolt set spacer aside.

E7



Slide motor off shaft.

E8



Carefully rest motor on infeed tray.

Caution: Do not allow motor to slide off of tray surface.

Adjustments to Increase or Decrease the Distance Between the Upper Roller and Blade

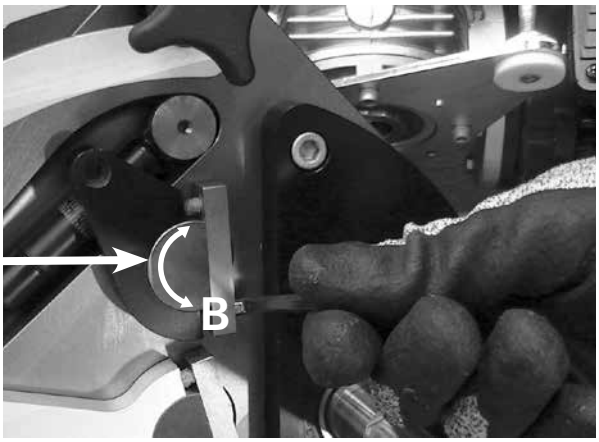
E9

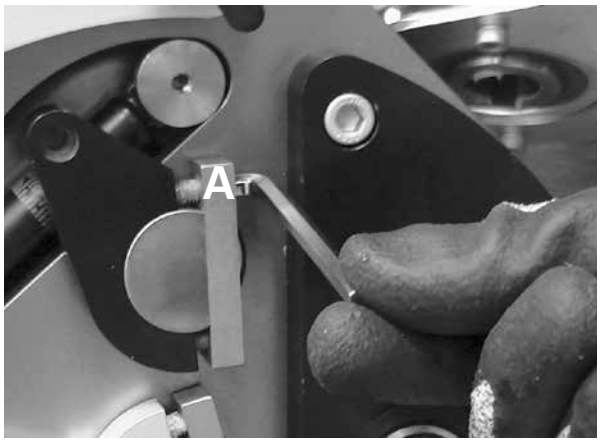
For upper roller adjustment loosen and remove gas spring fixation screw.

The purpose of the adjustment is to turn the eccentric shaft. It is important to turn, for both A and B, a recommended one quarter turn or less prior to rechecking with shims.

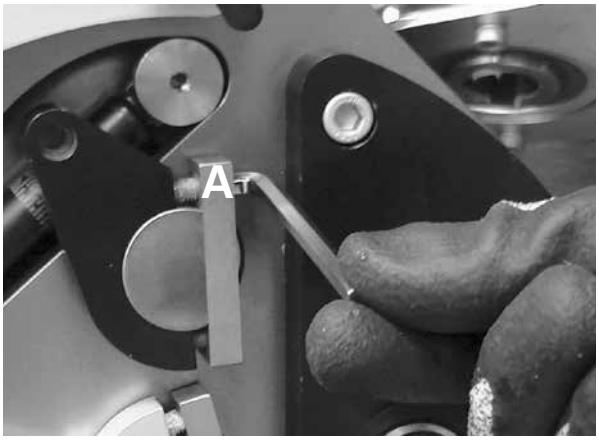
E10 For increasing the clearance between the top roller and blade: using a 5 mm hex key to engage screws, loosen screw B counterclockwise one quarter turn and tighten screw A clockwise one quarter turn or until moderately tight.

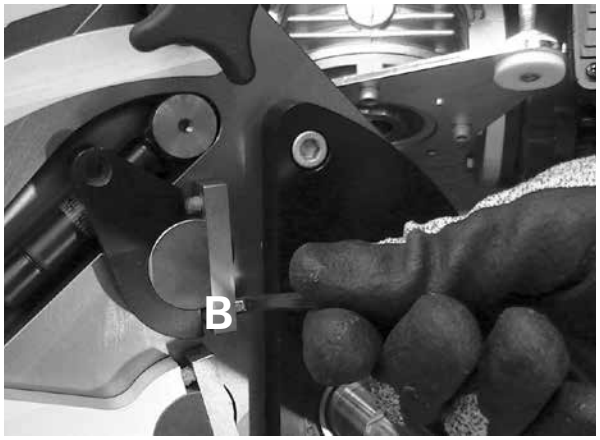
Eccentric Shaft





E11 To decrease the clearance between the top roller and blade: loosen screw A counterclockwise one quarter of a turn and tighten screw B clockwise one quarter turn or until moderately tight.





E12

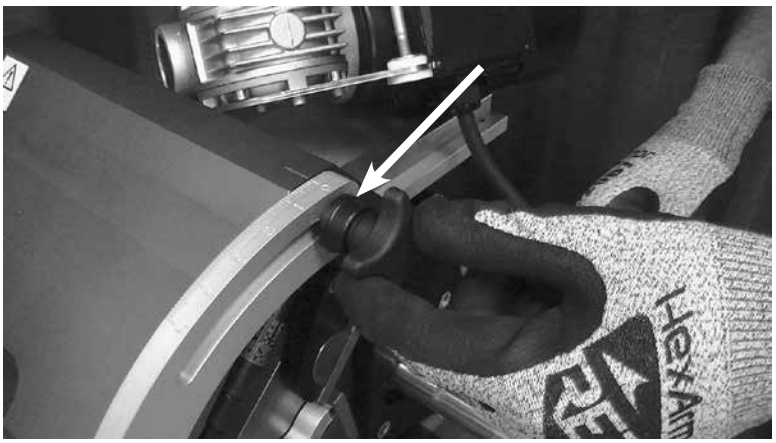
Reinstall gas spring screw.

E13

Check for clearance between the top traction roller and blade by inserting the clearance shims. There should be little resistance as the operator slides the white shim between the top traction roller and blade and the black shim should not pass through between the top traction roller and the blade. Repeat steps E9-E13 as necessary.

Adjustments to Increase or Decrease the Distance Between the Lower Roller and Blade

E14

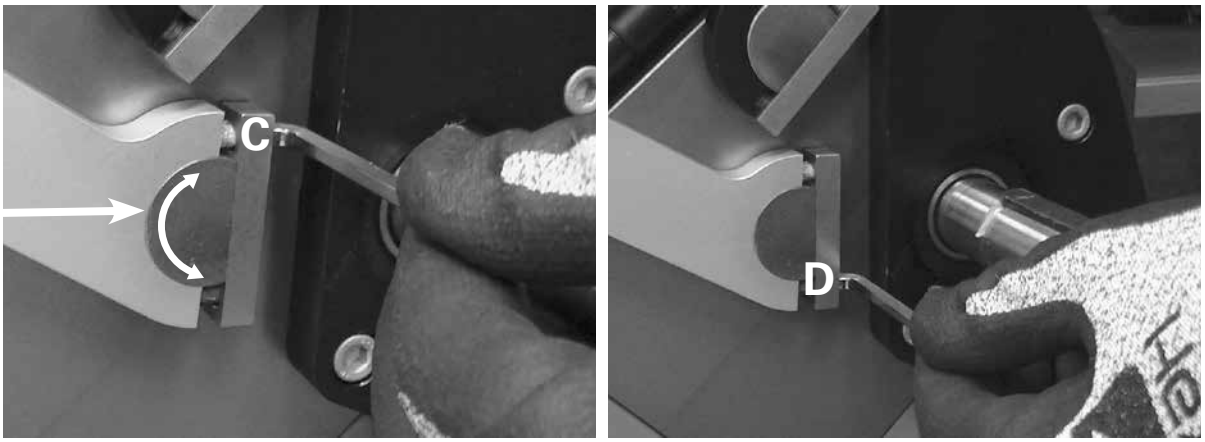


Position and lock adjusting handle so that adjusting screws are accessible.

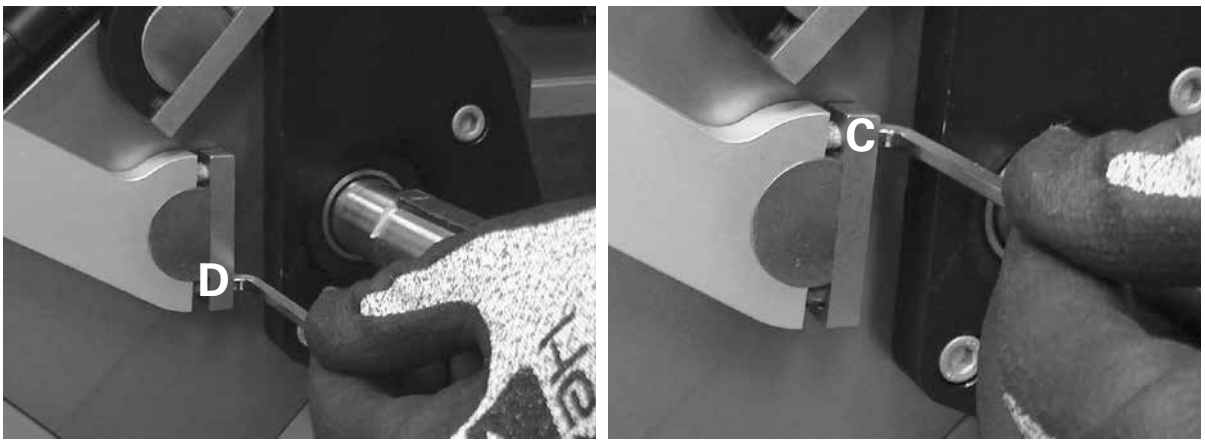
The purpose of the adjustment is to turn the eccentric shaft. It is important to turn, for both A and B, a recommended one quarter turn or less prior to rechecking with shims.

E15 For increasing the clearance between the blade and the lower traction roller: using a 5 mm hex key to engage screws, loosen screw C counterclockwise one quarter turn and tighten screw D clockwise one quarter turn or until moderately tight.

Eccentric Shaft

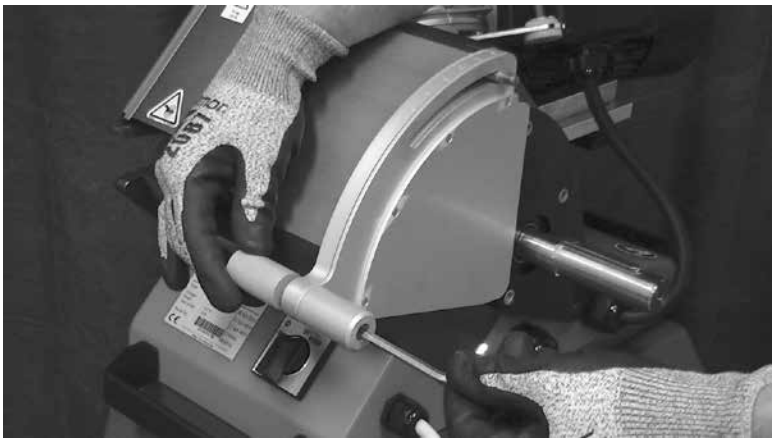


E16 To decrease the clearance between the blade and the lower traction roller: loosen screw D counterclockwise one quarter of a turn and tighten screw C clockwise one quarter turn or until moderately tight.



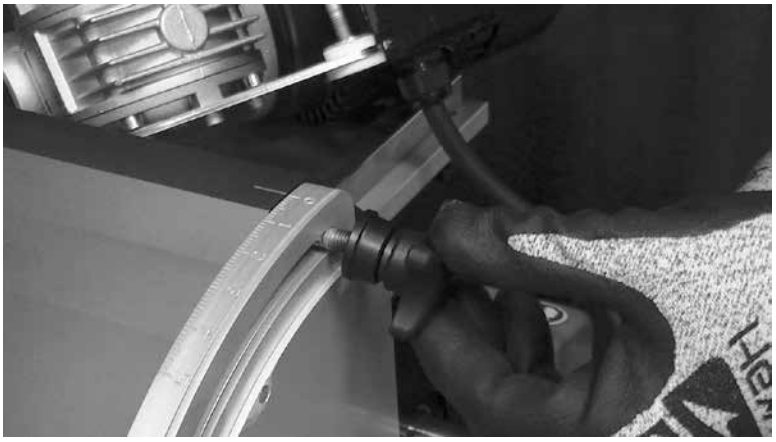
E17 Lock the adjusting handle back to 0. Check for clearance between the blade and lower traction roller by inserting the clearance shims. There should be little resistance as the operator slides the white shim between the blade and the lower traction roller and the black shim should not pass through between the blade and the lower traction roller. Repeat steps E14-E17 as necessary.

E18



Once adjustments have been made, reinstall the guard plate. Start by reinstalling the handle.

E19

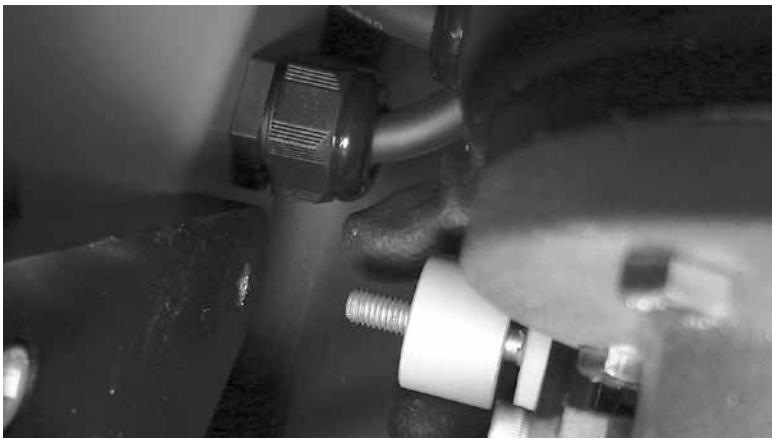


Then reinstall the clamp nut.

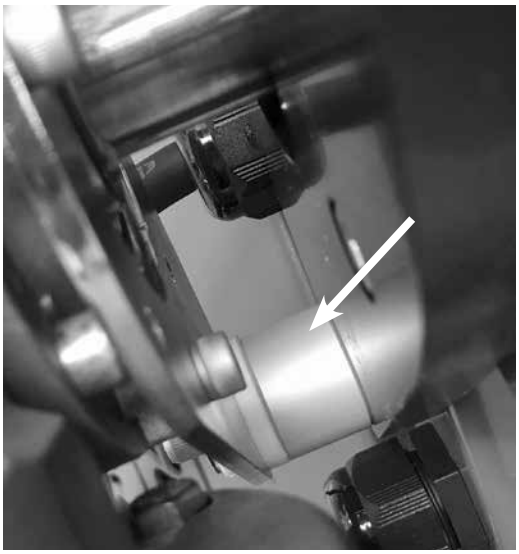
E20

Reinstall motor. Align shaft key with key slot.

E21



Reassemble the motor to the frame placing the spacer between the motor torque arm and ply base. Insert 8 mm hex bolt with washer and tighten.



E22

Note: Ensure rubber grommet is in place prior to reassembly.

Parts Lists

Ply 130™ Ordering Information	
Item Code	**Ordering Number**
08014	PLY-BL-BLADE-&-JIG-KIT
08490	PLY130-BLADE
08823	FUSE-GLASS-1.6-AMP
08824	FUSE-6.3-AMP
08826	SELECTOR-SWITCH-CH10
08831	PLY-FOOT-SWITCH
08846	FUSE-SIBA-189140-1.6-AMP
08836	FUSE-1.0-AMP
08837	FUSE-10-AMP
08838	FUSE-15-AMP
08839	TRANSFORMER-PLY130-115/230-24
08840	TRANSFORMER-PLY130-230/460-24
08841	REVERSE-CONTACTOR-KIT-1PH

Ply 130™ Step Cutter Ordering Information			
Low Volume		**High Volume**	
Ordering Number	**Item Code**	**Ordering Number**	**Item Code**
PLY130-STEPCUT-RETROFIT	08499	PLY130-SNGL-STEPCUT-BLADE-KIT	08778
PLY130-STEPCUT	08501	PLY130-SNGL-STEPCUT-BLADE	08791
Optional Items			
PLY130-STEPCUT-BLADES (5)	08497		
PLY130-STEPCUT-GUIDE-EXT	08498		
PLY130-STEPCUT-TWRENCH	08500		

Technical Assistance

G

Contact Flexco's Customer Service if technical assistance or repair is needed: www.flexco.com

2525 Wisconsin Avenue • Downers Grove, IL 60515-4200 • USA
Tel: (630) 971-0150 • Fax: (630) 971-1180 • E-mail: info@flexco.com

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