

Operating instructions

Bedford Closet® H1





Table of Contents

Safety	3
Specifications	4
Closure	4
Conveyor Speed	5
Flow Diagram	5
Installation	6
Mounting Hole Pattern For Bedford Closelt® Machine.....	6
Operation.....	11
Mounting a roll of closures	11
Feeding the closures down the clip track.....	12
Maintenance.....	16
Adjustments.....	23
Troubleshooting	34
Appendix	36



Safety

Read this section before using the equipment. This section contains recommendations and practices applicable to the safe installation, operation, and maintenance of the product described in this document. Additional safety information, in the form of task-specific safety alert messages, appears as appropriate throughout this document.

Be sure the following safety instructions are read, understood, and become a part of daily practice when operating or maintaining the closure equipment.

1. Do not attempt to operate the closure equipment until you understand its function.
2. Keep all foreign material away from the drive system.
3. Keep fingers out of the feed belts and closing roll area.
4. Disconnect the power cord before making any equipment adjustments or maintenance. All moving parts must be completely stopped.
5. After any adjustment, cycle the equipment by hand to ensure proper adjustment has been made. Immediately cycling under power may damage the unit and/or product.

Responsibilities of the Equipment Owner

Equipment owners are responsible for managing safety information, ensuring that all instructions and regulatory requirements for use of the equipment are met, and for qualifying all potential users.

Specifications



Closure

- A. The Closelt® Machine is capable of closing bags at a high rate of speed. The factors that restrict the max speed allowed to produce proper application are bag width, closure opening size, conveyor speed & flight spacing.
- B. The machine is available in right-hand or left-hand models. The parts list includes part numbers for both right-hand and left-hand equipment.

Two mounting configurations are available:

- 1. **SIMPLE POST MOUNT**
This mount only allows for adjustment of the closer-to-conveyor angle.
- 2. **THE SLIDE FRAME MOUNT**
This mount allows for adjustment of the system angle in relation to the conveyor. Package tightness can be controlled by moving the system relative to the conveyor.
- C. The system will close a wide range of product sizes. The Closelt® is available in many opening sizes to accommodate a large variations in bag widths and film material thickness.

Upon receiving sample bags, the factory will gladly recommend the proper Closelt® shape.
- D. A suggested spare parts inventory is listed in the appendix. It is recommended that an adequate supply of these parts be kept on hand for repairs.
- E. Specify your single-phase voltage requirements. Bedford Industries will supply the proper electrical specifications with your order. Standard electrical specifications are 110 VAC, 15 Amp, 1 phase, 60 Hz.
- F. Contact Bedford Industries for any special voltage requirements.

Conveyor Speed

Bag width, flight spacing and conveyor speed, all combine to affect the maximum number of packages per minute through the system.

Flight bar spacing on the conveyor is dependent upon the width of the widest product produced on that system.

Packages per minute is based on a maximum flight bar space of: 1.2 times the bag width with maximum conveyor speed calculated at 108 feet per minute.

Use the following formula to calculate flight bar spacing as it relates to conveyor speed:

1. Bag width x 1.2 = flight bar spacing.
2. Flight bar spacing x desired packages per minute = speed of conveyor per minute in inches.
3. Conveyor speed in inches divided by 12 inches = conveyor speed in feet per minute.
4. Flight spacing can be rounded up to the nearest inch. For example, a 9-inch bag equals a flight spacing of 10.8 inches. Round 10.8 inches **up** to 11 inches.

The chart below shows examples of how conveyor speed relates to different bag widths.

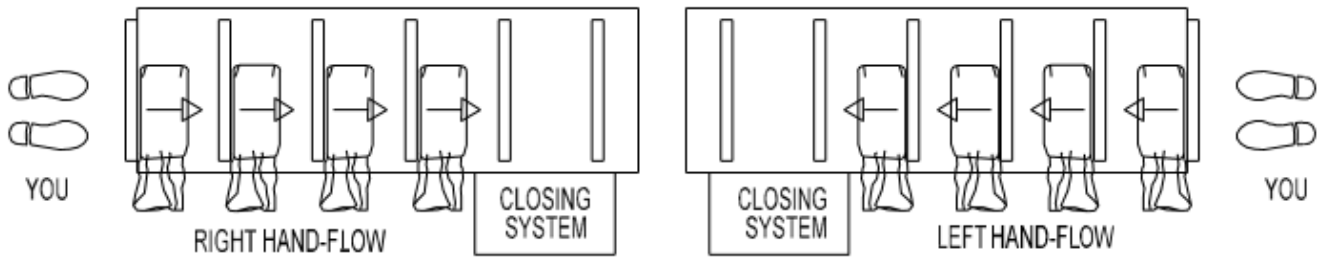
BAG WIDTH	FLIGHT SPACING (1.2 X bag width)	PACKAGES PER MINUTE	CONVEYOR SPEED (feet per minute)
9"	10.8"	30	27 fpm
		60	54 fpm
		90	81 fpm
12"	14.4"	30	36 fpm
		60	72 fpm
		75	90 fpm
18"	21.6"	30	54 fpm
		50	90 fpm

Flow Diagram

To determine the correct flow direction, visualize your package moving away from you, towards the closing system.

If the open end of the bag is on your right-hand side - the flow direction is RIGHT.

If the open end of the bag is on your left-hand side - the flow direction is LEFT.



Installation

A. Power Requirements:

Closetl® Machine power requirements are listed in Specifications section, page 4.

B. Mounting Closetl® on Conveyor: (Figure 2.1 & Figure 2.2)

NOTE: The life of the motor, drive & PLC will be extended if the Closetl® machine is wired to continue running when bagger system or conveyor is energized. Power surges created by starting and stopping may shorten the life of the electrical components.

1. When you are mounting the Closetl® machine on a conveyor, confirm the mount bracket type is correct.
2. Set the Closetl® machine angle stop as described in the following sections.



Figure 2.1

Mounting Hole Pattern For Bedford Closetl® Machine

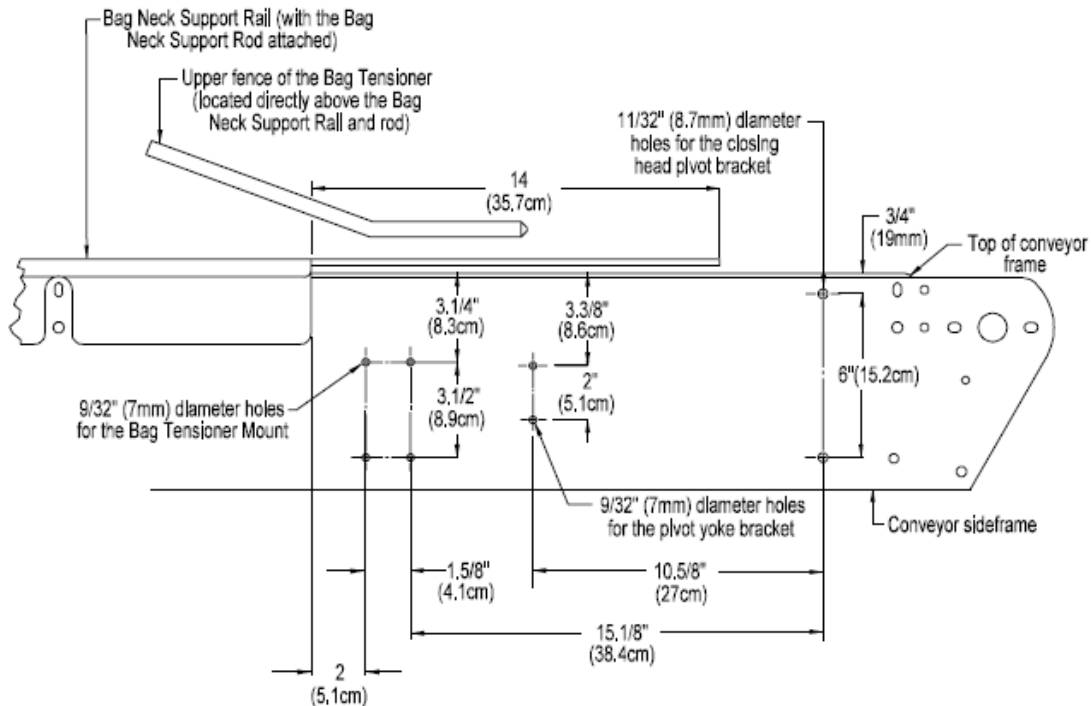


Figure 2.2

**C. Vertical Alignment of System and Bag Tensioner:
(Figure 2.3)**

The height relationship between the bag tensioner and the Closelt® machine is very important. The bag neck must flow smoothly through the bag tensioner to the application area.

1. After the Closelt® machine has been mounted to the conveyor side, set the height so the top of the closing roll is located at approximately half the height of the product to be closed.

2. Set the brushes to squeeze together leaving a slight air gap. Set the height of the bag tensioner so the top of the lower brushes is even with the top of the closing roll.

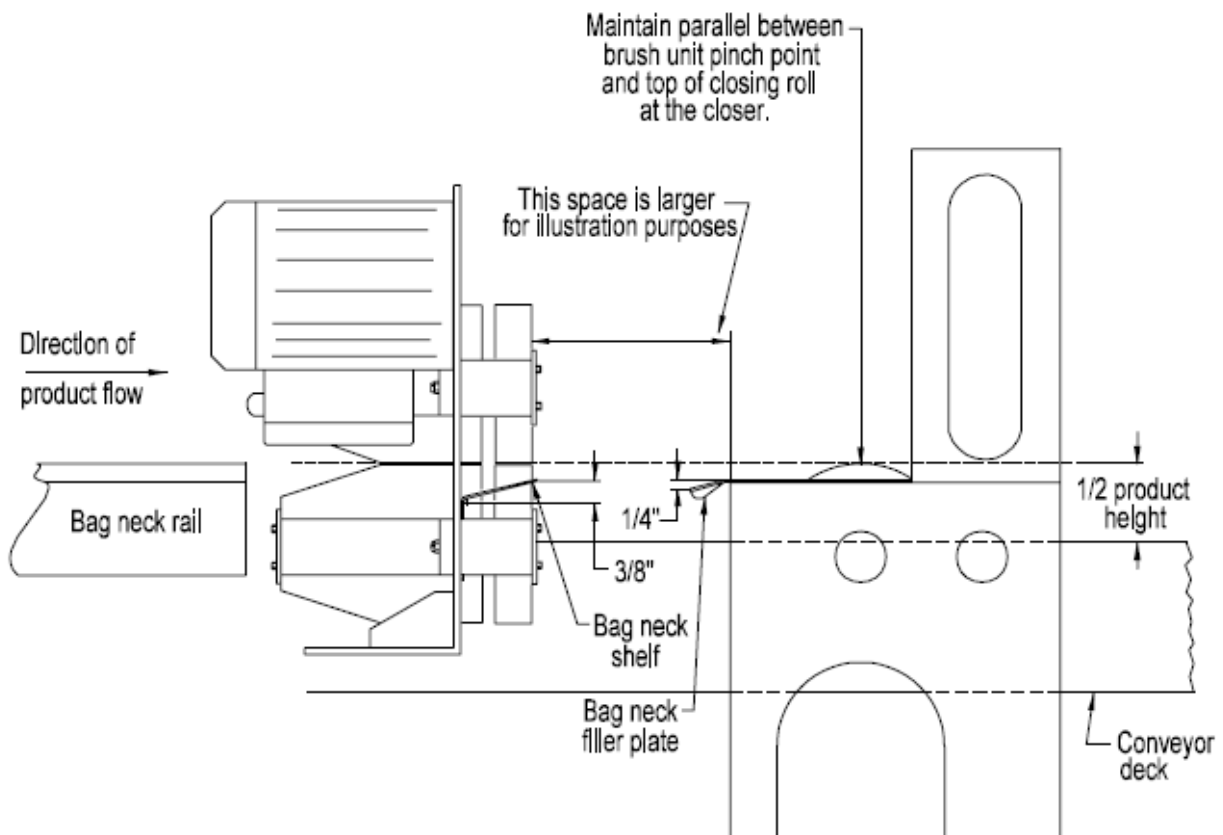


Figure 2.3

**D. Setting for the Simple Post Mount:
(Figure 2.4)**

1. For an average 9-inch (22.9 cm) wide bag, the proper Closelt® machine angle stop position should be approximately 2 inches (5.1 cm) from the conveyor frame. For wider bags, the angle should be increased. For narrower bags, the angle should be decreased.
2. The angle should be such that the closure is centered across the package.
3. For closing vertical packages, the angle should be set so that the package is stretched, but not lifted off the conveyor.
4. Package tightness is accomplished with the bag tensioner.

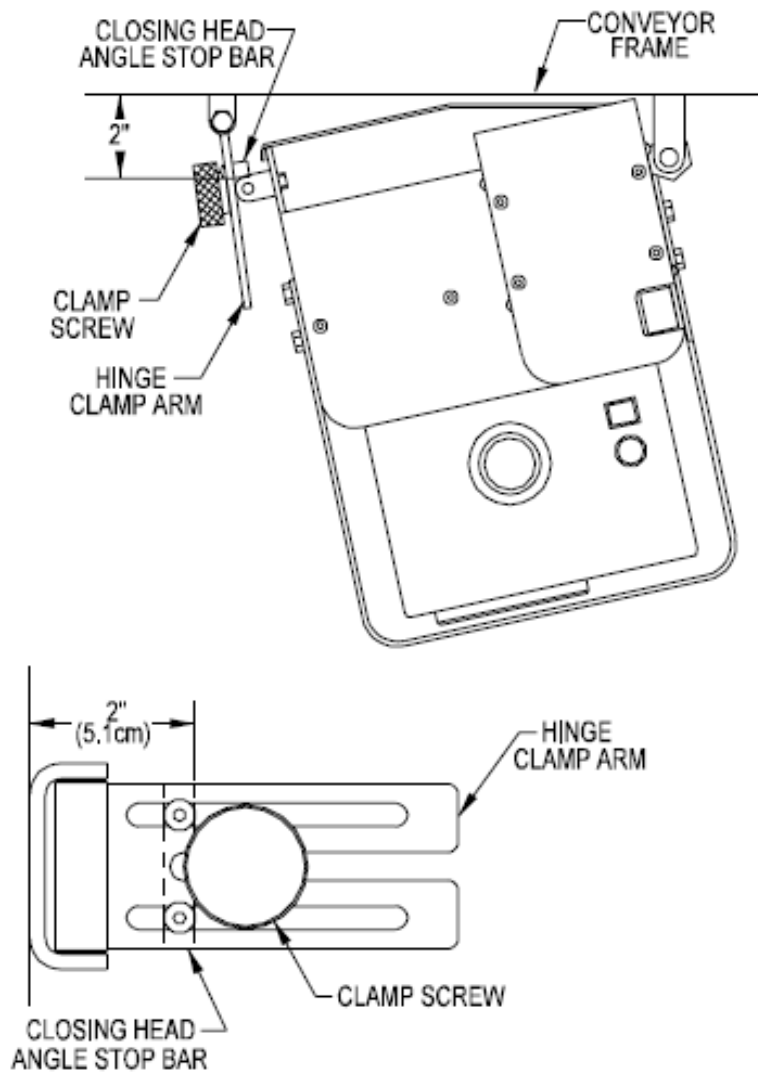


Figure 2.4

E. Setting for the Idle Rim Model (Figure 2.5)

1. The bag tensioner must be located toward the rear of the mounting slots as shown (1).
2. The distance between the closer frame and the conveyor is adjustable, but generally kept to a minimum. This is done by adjusting the closer mount, using the adjustment knob at the side of the closer frame (2).
3. The distance from the pivot pin and the conveyor side will remain at the angle that applies the closure to the center of the bag.
4. Set the distance between the upper fence and the conveyor side at $\frac{3}{4}$ " (19mm), or in line with the lower fence rod (4).
5. The bag neck rod should be set so it tapers back around the brushes. This setting should be made after the bag tensioner has been set into its correct operating position. The end of the rod points toward the pinch point of the closing roll and pressure roll.

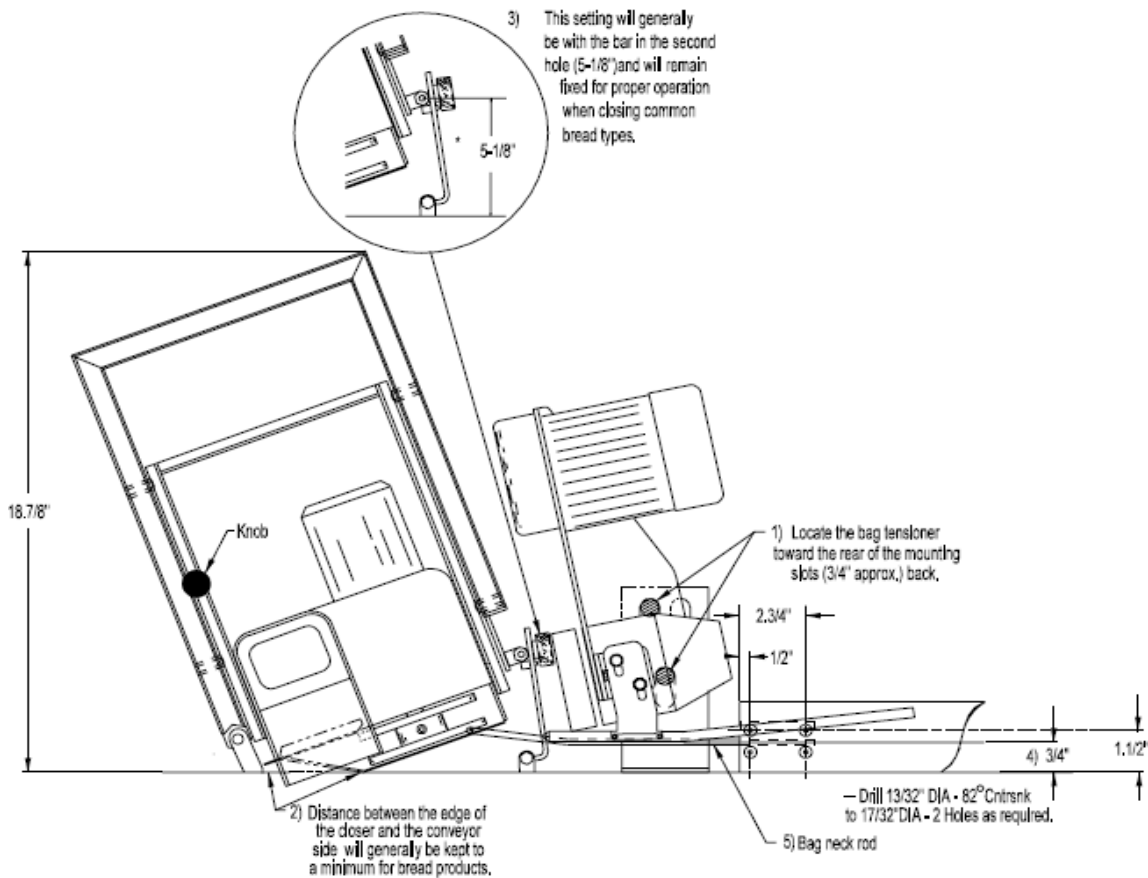


Figure 2.5

F. Setting for the Slide Frame Mount (Figure 2.6)

1. The bag tensioner must be located toward the rear of the mounting slots as shown (1).
2. The distance between the closer frame and the conveyor is adjustable, but generally kept to a minimum. This is done by adjusting the closer mount, using the adjustment knob at the side of the closer frame (2).
3. The distance from the pivot pin and the conveyor side will remain at the angle that applies the closure to the center of the bag (i.e. 2" / 50.8mm)
4. Set the distance between the upper fence and the conveyor side, or in line with the lower fence rod (4).
5. The bag neck rod should be set so it tapers back as close to the front of the closer door as possible. This setting should be made after the bag tensioner has been set into its correct operating position.

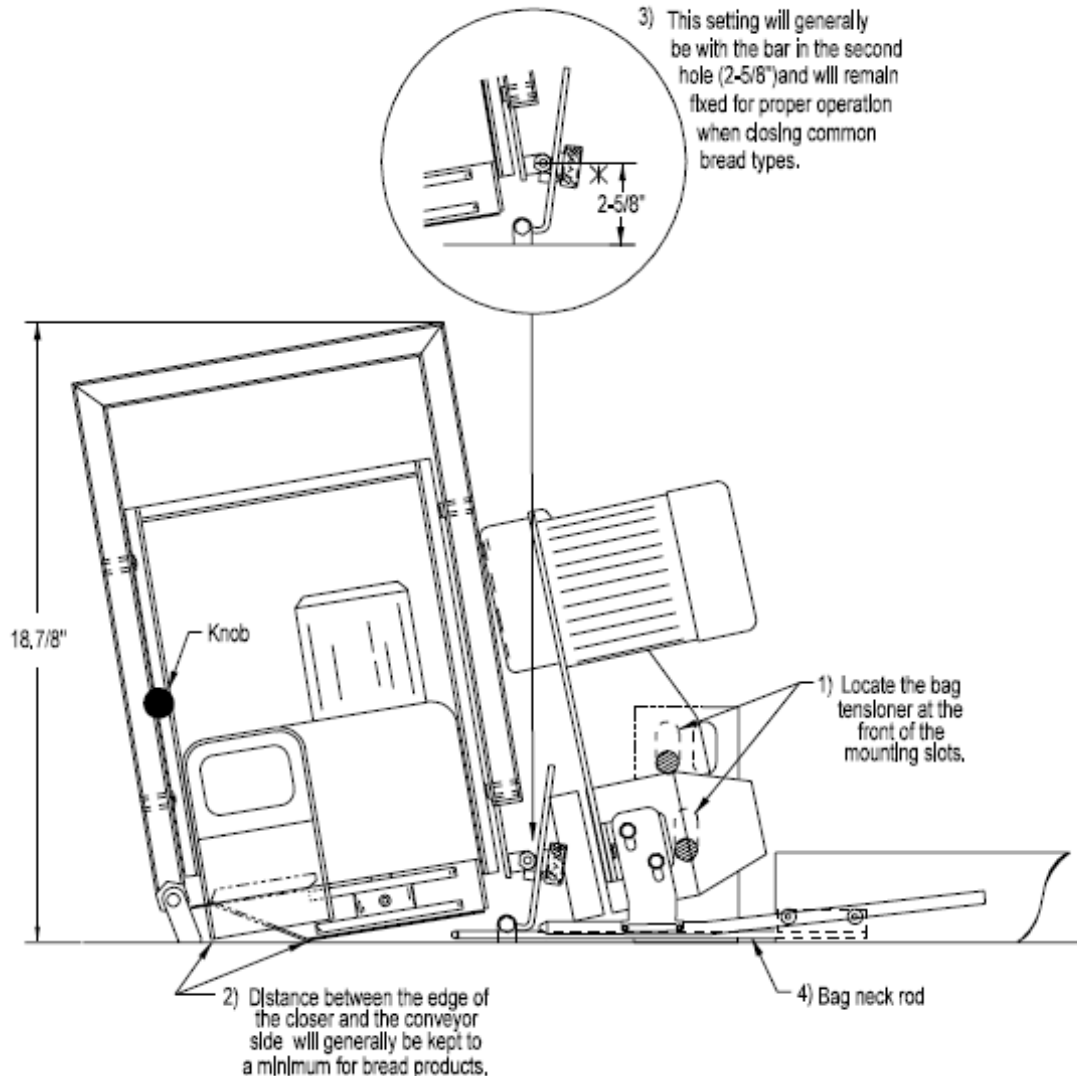


Figure 2.6

Operation

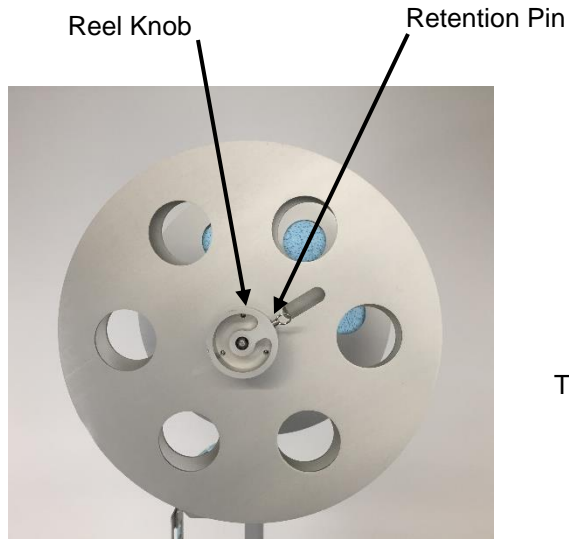


Figure 3.1

Mounting a roll of closures (Figure 3.1)

1. Remove the reel side plate by pulling & turning 90° the retention pin (located on the reel knob) and sliding the assembly off the shaft.
2. Mount a roll of closures on the reel hub bearing. Closures must be mounted with the closure opening facing the oncoming product.
3. Replace the reel side plate and turn the retention pin until it locks "clicks" into the shaft.

TURRET ASSEMBLY USE: (Figure 3.2)

The turret assembly is held in position by a knob located in the reel mounting plate and mates to a slot in the turret mount. To rotate the turret assembly, lift the turret release knob until it clears the turret mount, and allows the turret assembly to rotate. Rotate the assembly 180° until the turret locking pin clicks into the turret mount

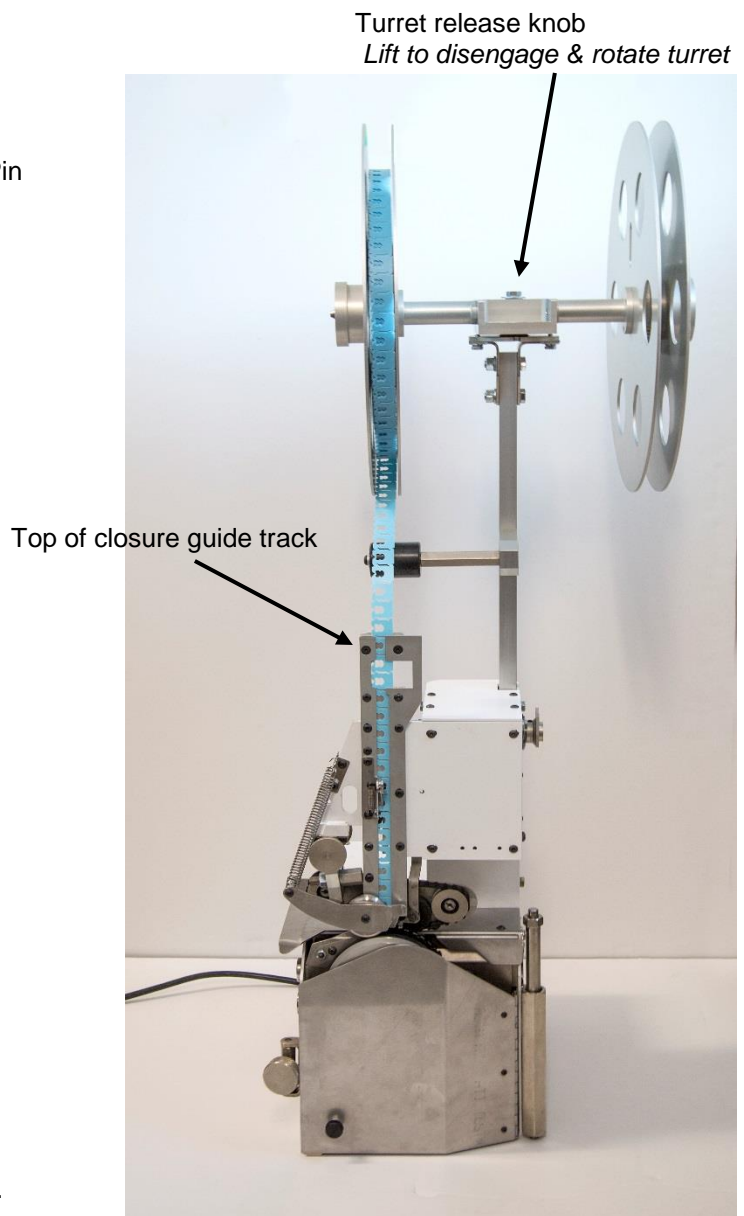


Figure 3.2

Feeding the closures down the clip track

(Figures 3.2, 3.3, 3.4 & 3.5)

1. Remove the tape from the roll of closures.
2. Insert this free end of closures into the top of the clip track.
3. Slide the closures down the clip track until the Index-pick & Check-pick are engaged in the 1/16" (1.6mm) slot between the closures. Make sure the pick is in the slot and not in the closure opening.
4. Cycle the system by pressing the manual cycle button located on the side of the electrical box. Advance the closures into a ready-to-close position.

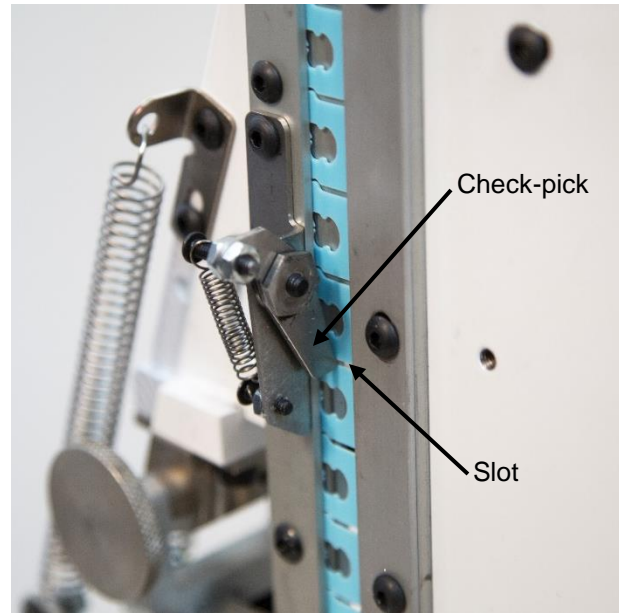


Figure 3.4

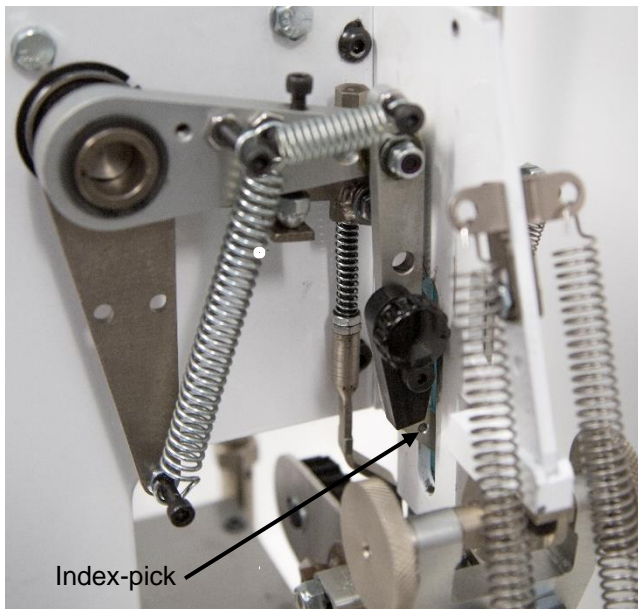


Figure 3.3

NOTE: The check-pick should be in the position shown. Cycle the system manually to confirm Closelt® advancement and opening location.

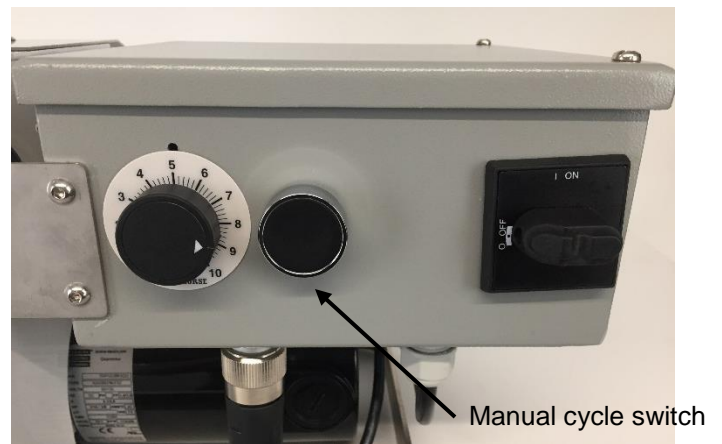


Figure 3.5

In the event that closures are not positioned or indexing correctly, refer to Adjustments section (pg 26) of the full manual.

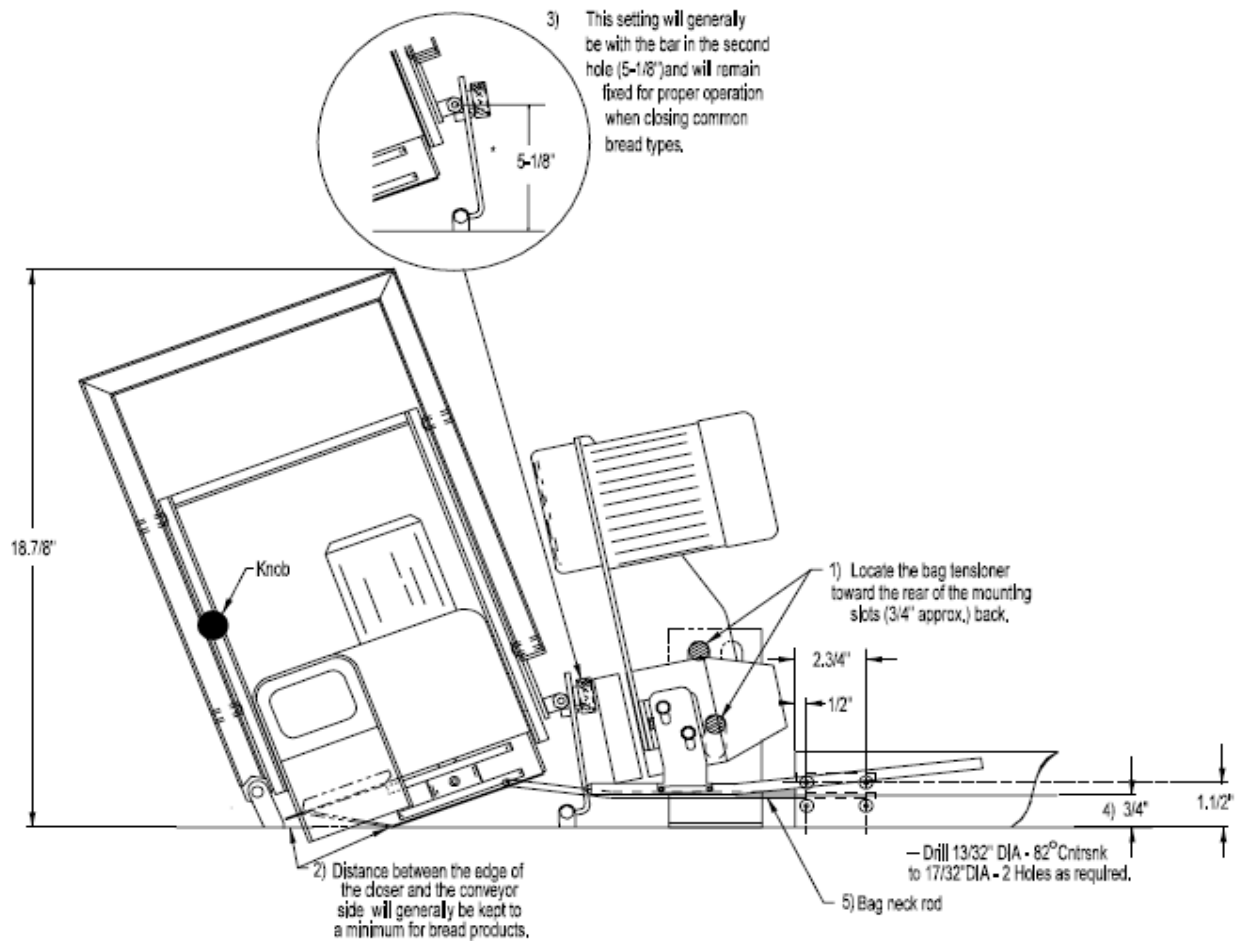


Figure 3.7

B. PACKAGE TIGHTNESS FOR THE IDLE RIM CLOSING SYSTEM:
(Figure 3.7)

The Idle Rim Closing System has been designed to give maximum package tightness with a minimum of adjustments and bag marking.

This system provides a way for setting the angle of the closer as wide as necessary to eliminate bag marking and for adjusting the closer back toward the product on the slide frame to restore tightness

If the slide frame and brush unit installation procedure has been done properly, the following procedure will maximize the use of the Idle Rim Closing System.

1. Set the angle of the closer with the angle stop bar in the second hole. (1)

2. Adjust the closer in on the frame until the corner or the door is about 1/16" (1.6mm) away from the conveyor. (2)
3. The bottom bag-neck rod fence should be 3/4" (19mm) out from the conveyor side, in front of the brushes. It should angle around the brushes, point toward both the pinch point of the closing roll and the front pressure roll. (3)

This allows the film to flow smoothly into the closing area, as the product is pulled up against the idle rim surface of the closing roll.

4. The bag tensioner must be located toward the rear of the mounting slots as shown. (4)
5. With light tension on the brush unit brushes, run some product. Tighten the brush tension until the product is pulled up to the fence solidly as it moves by.

6. Check the packages for tightness and markings at the trailing edge of the closure, 1/2" (12.7mm) or so back.
7. If the package is too tight, and has markings, back the closer out a notch on the side frame.
8. If the bag is tight enough, but still has markings, then adjust the closer angle out one hole and adjust the closer back on the slide frame to the approximate last position.
9. Repeat this procedure until you have achieved a satisfactory package.
10. Unless the package width changes more than a 1/2" (12.7mm), only the bag tensioner will need to be adjusted. This is necessary for different package weights and film thicknesses and slipperiness.

NOTE: It is not necessary to change the angle for package tightness.

Package tightness is accounted for by adjusting the bag tensioner and moving the closer on the slice frame.

For tighter packages, tighten the brush pull, and/or adjust the closer in toward the conveyor.

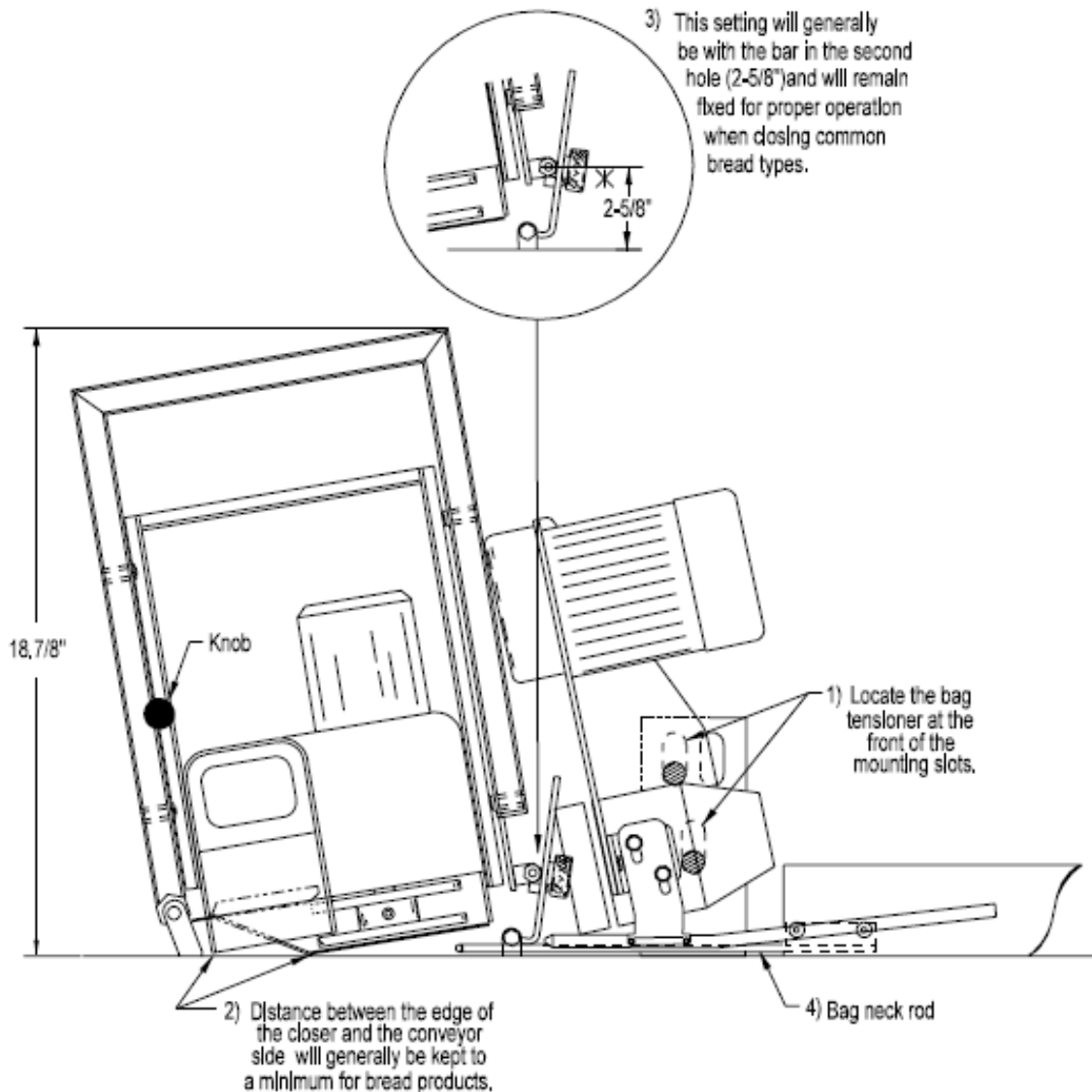


Figure 3.8

C. PACKAGE TIGHTNESS FOR THE SLIDE FRAME MOUNT: (Figure 3.8)

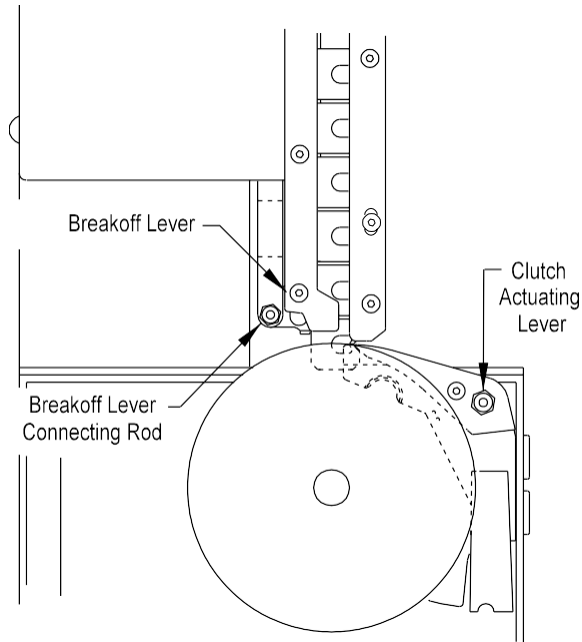
1. The angle of the system is set so that the closure is on the center of the package. Do not adjust for package tightness, only for bag width.
2. Adjust the bag tensioner to draw up the film and product to a uniform position and tightness
3. Adjust the system in or out, to achieve proper package tightness due to bag width changes.
4. Use the bag tensioner to adjust for package tightness as the product weight is changed. i.e. 1 lb. to 1-1/2 lbs. to 2 lbs. (454 grams to 680 grams to 908 grams.)

Maintenance

PREVENTIVE MAINTENANCE			
AUTOMATIC BAG CLOSING MACHINE			
AREA	PROCEDURE	INTERVAL	REMARKS
Clip Track Assembly	Compressed air can be used to keep assembly cleaned out.	Daily	An accumulation of foreign material may cause the closures to jam or the printing to smear.
Bogie Pressure Kit	Check alignment (Figure 5.9).	Daily	Be sure that the bogie system lines up laterally with the bottom-closing roll.
Clutch Actuating Arm	Lubricate with food grade mineral oil.	Weekly	Put a few drops in the oil hole.
Breakoff Lever	Lubricate with food grade mineral oil.	Weekly	Apply oil sparingly at both pivot points. Remove any excess oil.
Pressure Roll Linkage	Lubricate with food grade mineral oil.	Monthly	Apply oil sparingly at pivot points and in oil hole.
Check-pick	Lubricate with food grade mineral oil.	Monthly	Apply oil sparingly on each side of pivot point.
Index-pick	Lubricate with food grade mineral oil.	Weekly	Apply oil sparingly on each side of pivot point.
Reel Assembly	Lubricate with food grade mineral oil.	Every Six Months	Apply oil sparingly between reel bearing hub and reel bearing.
Bogie & Closing Roll Belts	Check for wear, cracking or general deterioration.	Weekly	Refer to Section V Adjustments.
Motor Brushes	Inspect motor brushes.	Every 250 Hours	
Motor Control Box	Open box and carefully blow out dust and foreign material. Very light air pressure.	Weekly	Dirt and dust may cause a short in the circuit board. Do not touch the electrical components.
Motor	Thoroughly inspect motor to detect wear and remove any conditions that lead to further wear. Use moderate pressure to blow carbon dust out of the motor.	Every Six Months	Particular care should be directed toward motor bearings, dirt and dust.

**A. LUBRICATION POINTS:
(Figure 4.1-4.3)**

The breakoff lever should be lubricated at both bearing points weekly. The brake-off connecting rod should be lubricated at both end connectors weekly.



NOTE: Remove any lubricant that comes in contact with the closing system belts or pressure roll

The clutch-actuating lever requires lubrication weekly.

Figure 4.1

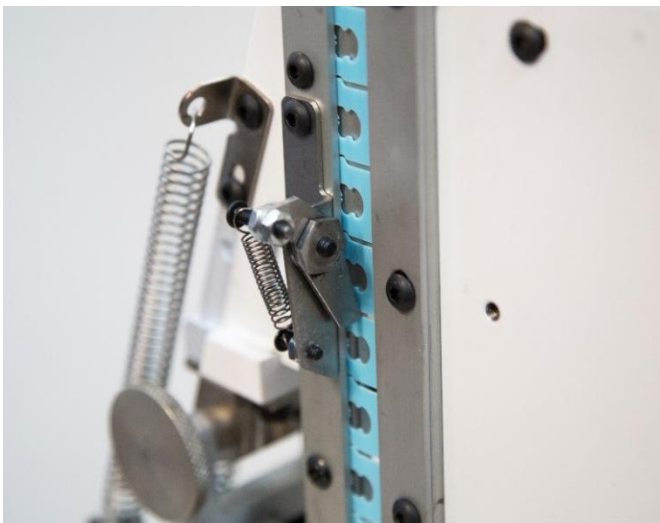


Figure 4.2

The check-pick pivot should be lubricated monthly



Figure 4.3

The index-pick pivot point should be lubricated weekly.

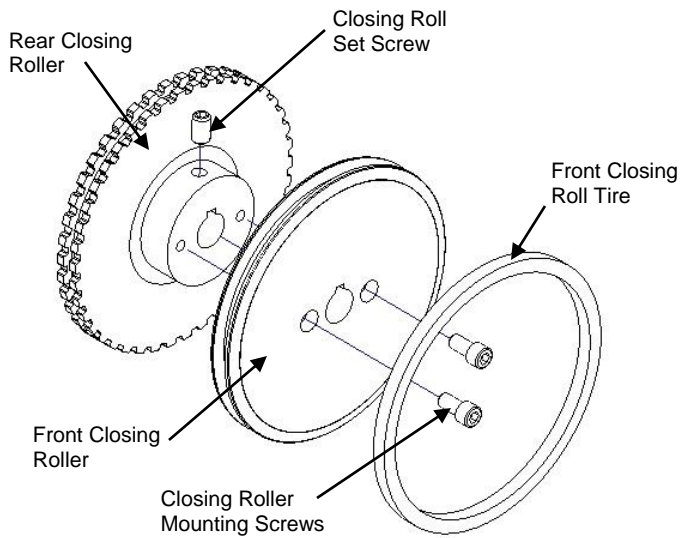


Figure 4.4



Figure 4.5

B. STANDARD CLOSING ROLL RINGS REPLACEMENT: (Figure 4.4, 4.5)

For geared closing roll, or idle rim closing roll, consult the Parts Section for assembly detail.

1. Swing the bogie pressure roll assembly out away from the closing roll.
2. Remove the two (2) front closing roll mounting screws.
3. Remove the front half of the closing roll.
4. Remove and replace the worn tire, as shown.
5. Check for proper tire seating.

REAR CLOSING ROLL TIRE

6. With the front half of the closing roll removed, work the rear tire off the rear half of the closing roll and work it around the bag film guide assembly.

NOTE: Loosen the closing roll setscrew. This will enable you to move the closing roll on the closing roll shaft. Remove and replace the old tire.

7. Reverse instruction 6 to mount the new tire.
8. Remount the front half of the closing roll and tighten the mounting screws.

C. CARE AND SERVICING OF SYSTEM MOTOR:

NOTE: Disconnect main power cord before removing brush covers.

1. A thorough inspection of the motor should be performed every six months to:
 - a. Replace any faulty bearings.
 - b. Remove any dust and foreign materials.
 - c. Replace worn brushes.
 - d. Inspect the commutator.
2. The brushes should be inspected every 250 hours, so that replacements can be made if necessary. The brushes in the motor should last about 1,000 to 1,500 hours. However, certain conditions such as dust, moisture or faulty controls can reduce motor life considerably.

Brushes naturally wear down and should be replaced before they are less than 3/8" (9.5mm) long. Whenever a brush is removed for inspection, be sure it is replaced in the same axial position; that is, it must not be turned around in the brush holder when putting it back in the motor. If the contact surface which has been worn to fit the commutator, is not replaced in the same position, excessive sparking and loss of power will result.

3. The commutator should also be inspected when the brushes are removed. Do not allow a commutator to become covered with dust or oil. It should be wiped occasionally with a clean, dry cloth or one moistened with carbon tetrachloride. If necessary, the commutator can be smoothed with a fine commutator dressing stone or sandpaper No. 0000 or finer. For sever roughness and pitting, the commutator will have to be removed and machined.

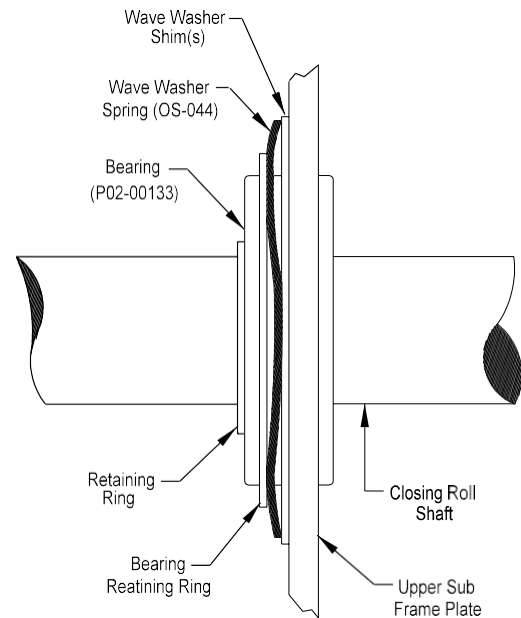


Figure 4.6

D. WAVE WASHER SHIM WITH OS-044 WAVE SPRING (Figure 4.6)

Wave washer shims are used when needed to space the bearing away from the upper mounting plate. This bearing is located on the front of the closing roll shaft. A wave spring fills this gap and places a load on the bearing, preventing the bearing from spinning in the upper plate.

The proper space between the bearing retaining ring and the front of the upper plate is .040" (1mm). If the closing roll shaft assembly is removed, this space should be measured after the shaft is securely remounted. Place shims between the upper plate and the wave spring, if needed, until proper space, .040" (1mm), is reached.

E. CLUTCH MAINTENANCE:

The system clutch is an electrically actuated wrap spring clutch. The following instructions explain the removal and maintenance of the clutch unit. Refer to Parts Section Parts to help identify individual components described in this section.

NOTE: Disconnect main power cord before proceeding.

REMOVE THE CLUTCH FROM THE CLOSER (Figure 4.7)

1. Remove the bogie, closing roll and bag film guide assemblies.
2. Remove the clutch sprocket guard and the pulley guard.
3. Loosen the four motor mount screws and slacken the drive belt.
4. Disconnect the two electrical leads to the clutch.
5. For better access of the clutch assembly, remove the motor mounting plate. Leave the motor attached to the mounting and to the electrical box via the electrical cord.
6. Tip back the closer to allow access from the bottom of the closer frame. Loosen the setscrew in the eccentric rod end and return the closer to an upright position. When reassembling, set the eccentric rod end against the back of the clutch assembly and tighten the rod end setscrew.
7. Open the electrical box. Locate the 1/4-28 socket button head screw at this end of the clutch shaft. Use a 5/32 hex wrench to remove the socket button head screw.

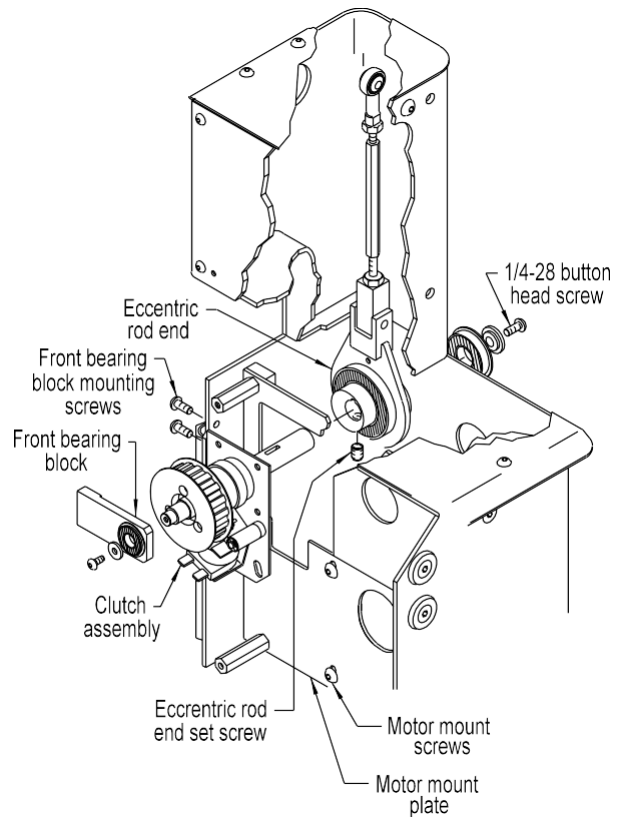


Figure 4.7

8. Locate and remove the two 10-24 button-head screws securing the front-bearing block to the closer mainframe. Remove the drive belt.
9. Remove the clutch assembly from the front of the closer. When remounting the front-bearing block, set the distance between the top of the bearing block and the closer mainframe at 1 5/16" (33.3mm). Pull the block forward by hand while tightening the mounting screws, to compress the wave spring and load the clutch shaft bearings (Figure 4.8).

G. REPLACE DRIVE BELT:

Inspect the drive belt occasionally for wear. Follow these instructions to replace and properly tension a new belt.

1. Remove the Bogie, Closing Roll, Bag Film Guides, Clutch Sprocket Guard, and Drive Pulley Cover.
2. Slightly loosen the four motor mounting screws and slacken the drive belt.
3. Remove the two button head screws securing the Front Bearing Block to the closer main frame.
4. Replace the drive belt.
5. Tilt the motor side of the closer up and place a brace under it so that side of the closer is up off the table. The weight of the motor is enough to tension the belt.
6. Tighten the motor mounting screws.
7. Remount the Front Bearing Plate. Before tightening the mounting screws, set the distance between the top of the Bearing Block and the closer mainframe at 1 5/16" (33.3mm). Refer to figure 4.8.

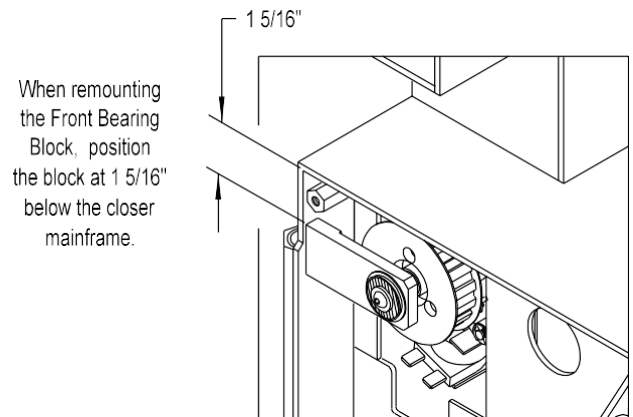


Figure 4.8

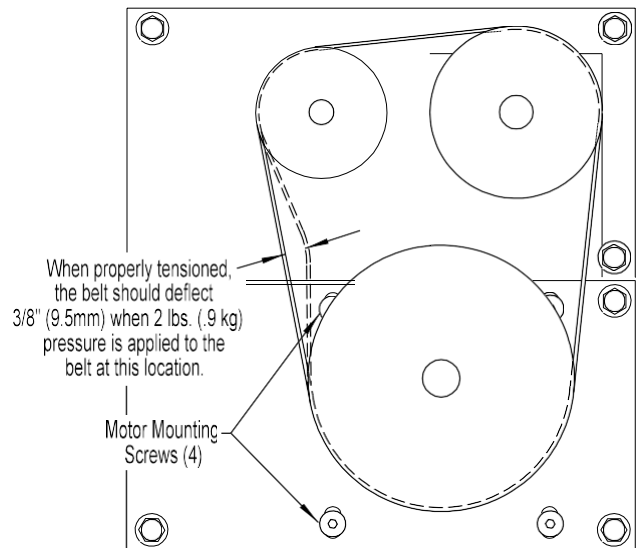


Figure 4.9

CAUTION
IF THE CLUTCH IS NOT ACTUATING
PROPERLY, THE PROBLEM COULD BE
ELECTRICAL IN NATURE.

G. CLUTCH DISASSEMBLY:

1. Locate and remove the 10-24 socket button head screw connecting the clutch shaft to the front bearing block.
2. Remove the retaining ring and lift the input hub, clutch pulley and anti-overnun spring off the remaining clutch assembly.
3. Manually actuate the clutch.
4. Work the clutch spring tang out of the slot on top of the control collar and lift the collar off the clutch spring and shaft hub.
5. Inspect the clutch components. Look for stretched or broken springs, general wear, etc. Replace any worn or broken parts.

DO NOT USE ANY FORM OF CLEANING SOLVENT TO CLEAN CLUTCH COMPONENTS. USE OF SOLVENTS REDUCE EFFECTIVENESS OF THE CLUTCH LUBRICANT.

The clutch can be cleaned without further disassembly.

6. **WIPE DOWN CLUTCH PARTS WITH A CLEAN DRY CLOTH.** The clutch is designed to never need lubricating. If the clutch has been disassembled and cleaned, lubricant can be applied. Lubricate with food grade mineral oil.
7. Remove the socket head screw holding the anti-backup spring to the clutch plate. Slide the spring off the bottom hub.

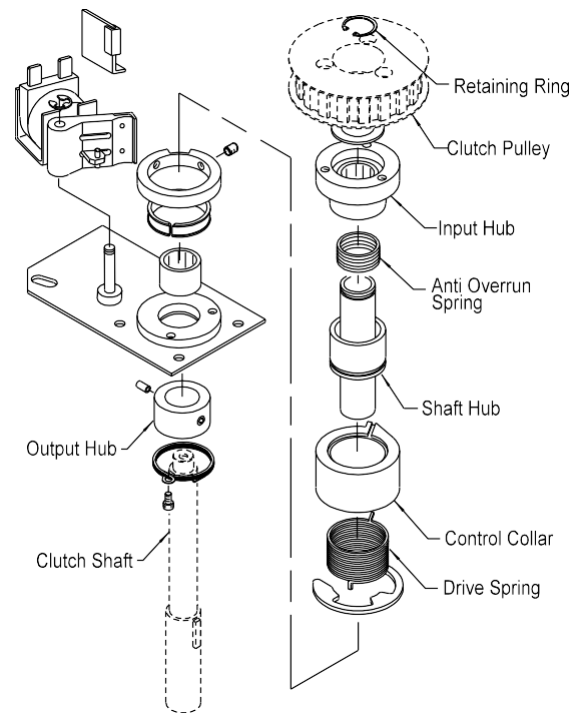


Figure 4.9

8. Locate and remove the setscrew and spring pin in the bottom hub.
9. Carefully remove the bottom hub from the shaft hub assembly. Take care not to scar the connecting surfaces as the bottom hub is removed.
10. Lift the adjusting collar, shaft hub and control collar off the mounting plate.

Inspect the bearing for wear. Replace the bearing, if needed. Reassemble the clutch in reverse order.

CAUTION
VERIFY THE ADJUSTMENTS LISTED
ABOVE ARE CORRECT BEFORE
OPERATING THE CLUTCH ASSEMBLY
UNDER POWER.

Adjustments

This section provides complete step-by-step directions for all adjustments on the Bedford Closet® machine. Use the following index to quick reference a particular adjustment.

- A. CLIP TRACK MOUNTING PLATE
- B. CLIP TRACK ASSEMBLY
- C. CLIP TRACK MOUNTING
- D. INDEX-PICK
- E. BAG FILM GUIDE HEIGHT
- F. CAM THE CLOSURE JAW
- G. CHECK-PICK
- H. CLIP BREAKOFF LEVER
- I. BOGIE TRACKING ALIGNMENT WITH CLOSING ROLL
- J. CLOSING ROLL
- K. BOGIE ASSEMBLY LATERAL ALIGNMENT
- L. BOGIE PRESSURE ROLL ASSEMBLY STOP
- M. IDLE RIM BOGIE
- N. CLUTCH
- O. CLUTCH SOLENOID

A. CLIP TRACK MOUNTING PLATE: (Figure 5.1)

The clip track mounting plate is properly adjusted when the top and side of the plate are flush to the top and side edge of the closer tower. Adjust as follows:

1. Loosen the four vertical adjustment screws and the four horizontal adjustment screws securing the mounting plate to the closer mainframe at the mounting plate guide bars.
2. Align the top of the clip track mounting plate to the top of the closer mainframe

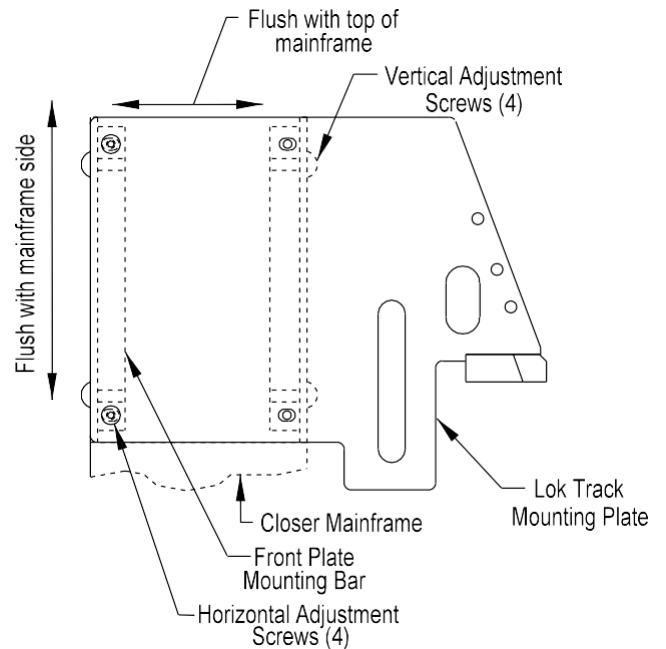
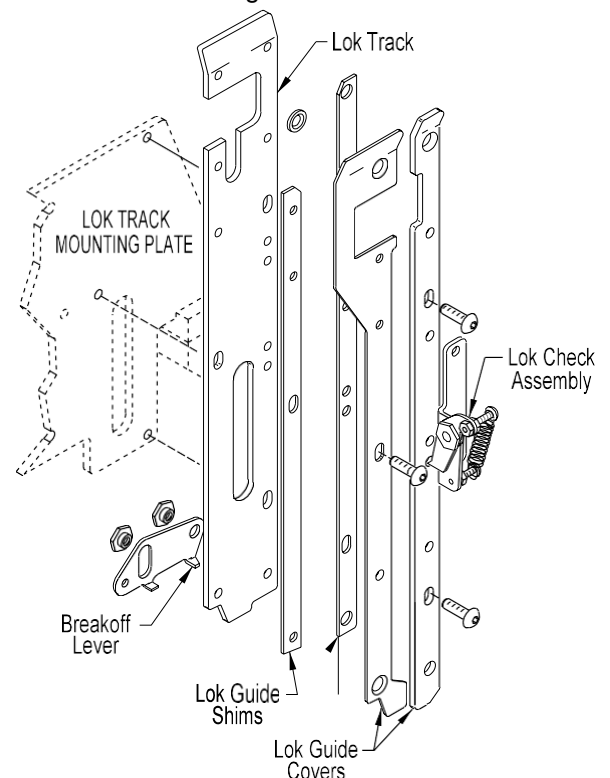


Figure 5.1



3. Tighten the vertical adjustment screws.
4. Align the vertical edge of the clip track mounting plate flush with the side of the main frame.
5. Tighten the horizontal mounting screws.

B. CLIP TRACK ASSEMBLY: (Figure 5.2)

To disassemble or reassemble the clip track:

1. Note the 45 degree bevel on the clip guide shims. This bevel must be located at the top of the clip track, facing in toward the strip of closures. If either of the clip guide shims are oriented incorrectly to the clip track, the track will not operate properly.
2. The clip track must be shimmed before tightening the assembly screws. Set the clip guide shims so that a strip of closures will slide freely down the track without binding, with a maximum clearance of no more than 1/32" (0.8mm).
3. Tighten the screws holding the clip track together.
4. Test guide spacing.
5. Check the break-off lever for free movement.
6. Adjust the clip check. Refer to part "G" in this section for details.

C. CLIP TRACK MOUNTING: (Figure 5.2)

1. Mount the clip track onto the clip track mounting plate and leave the mounting screws slightly loose.

The following adjustments can only be made with the closing roll and film Guide Assembly properly adjusted. Refer to Film Guide Adjustment part E, and to Closing Roll Adjustment part J in this section to verify that these are adjusted properly before continuing.

2. With the closing roll assembly in place on the closing roll shaft, adjust clearance between the bottom of the clip track and the top of the closing roll. Set this clearance to 1/16" (1.6mm). Tighten the clip track mounting screws with the clip track at this height. A spare breakoff lever placed between the clip track and the closing roll works well to set this clearance.
3. Check the breakoff lever to see that it will not interfere with any other adjustment.
4. Slide a strip of closures down the clip track into the approximate closing position.
5. The following adjustment can only be made correctly if the bag film guides are properly adjusted. Loosen the horizontal adjustment screws holding the clip track mounting plate to the plate mounting bars.
6. Move the clip track mounting plate horizontally to line up the front edge of the closure opening with the end of the front film guide.
7. Check to see that the clip track mounting plate is square with the closer main frame and tighten the horizontal mounting screws.

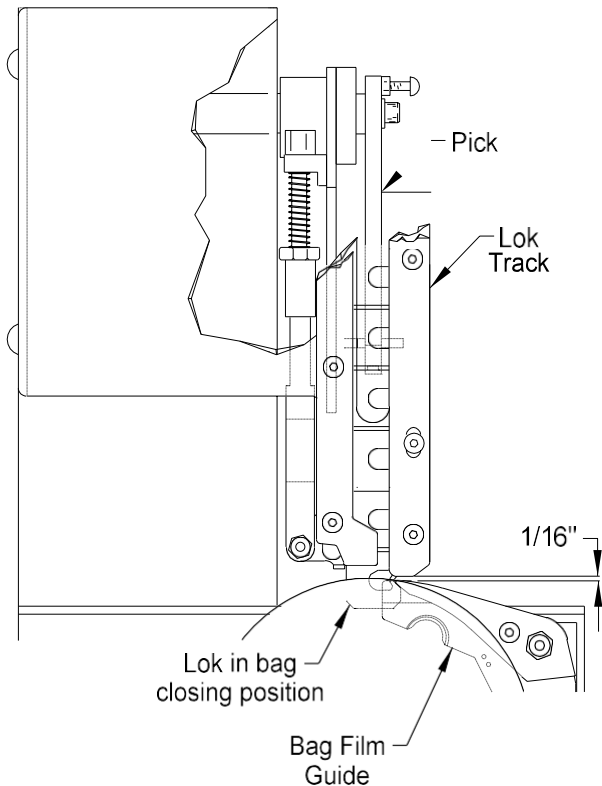


Figure 5.3

**D. CLIP PICK ADJUSTMENT:
(Figures 5.3, 5.4)**

The clip pick is used to bring the bottom closure down into closing position following the breakoff cycle. The height of the pick is adjustable. Pick height is properly adjusted when the jaw (Figure 5.6) of the closure is located at the top of the closing roll, allowing the bag film to enter the closure smoothly. To adjust pick height:

1. Locate the pick adjust screw. The adjustment screw is located on the pick operating arm assembly. (Figure 5.4)
2. With the closer in neutral, sight across the closing roll. The closure opening should be even with the top of the closing roll. If this is not the case, adjust the closure height.

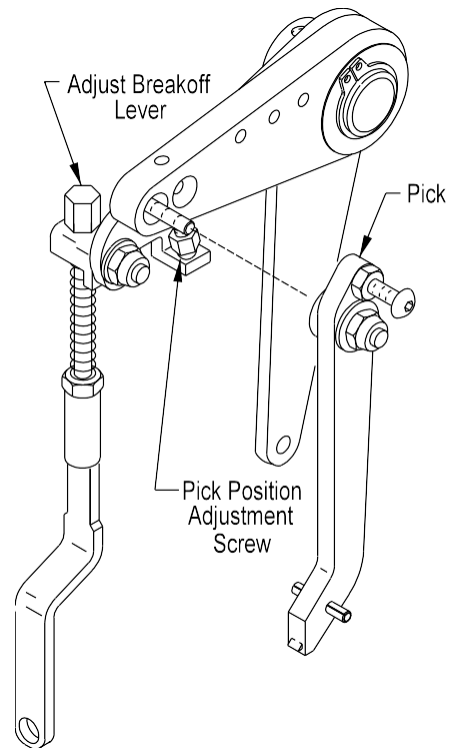


Figure 5.4

3. Flip the check-pick (Figure 5.7) up out of the operating position to allow the closure strip to move freely up and down the clip track.
4. Place a 1/4" wrench on the pick position adjustment screw and hold it as you sight across the closing roll at the closure jaw.
5. Rotate the adjustment screw one way and then the other, noting the bottom closure's movement up and down. Adjust the position of the closure jaw until properly set to the height of the closing roll.
6. Flip the clip check back into operating position and actuate the closer. Check for proper closure advancement. Re-adjust the closure height if needed.

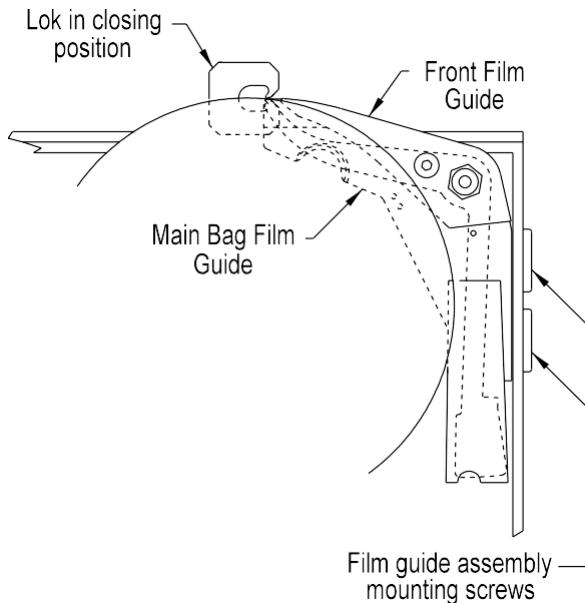


Figure 5.5

E. BAG FILM GUIDE ASSEMBLY HEIGHT ADJUSTMENT: (Figure 5.5)

The height of the bag film guide assembly must be equal to the height of the top of the closing roll. When properly adjusted, the bag film is driven onto the closing roll and into the jaw of the closure with the bogie assembly. As the leading edge of the bag film comes onto the closing roll, the bag film guide assembly supports it and assist it into the closure jaw. For this reason, bag film guide assembly height is very important. Adjust, if needed, as follows:

1. Slightly loosen the two flat head bag film guide mounting screws located on the side of the closer mainframe.
2. Sight across the closing roll and raise or lower the bag film guide assembly until the main film guide is equal in height to the height of the top of the closing roll.

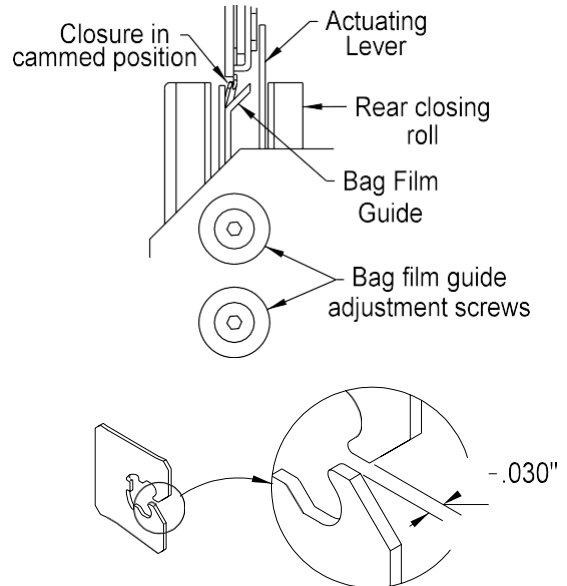


Figure 5.6

3. Check to see that the height of the front film guide is even with the height of the main film Guide. If adjustment is needed, loosen the front film guide button head screw and gently raise or lower the tip of the front film guide to match the height of the main film guide. Tighten the button head screw.
4. After these adjustments have been made, look into the closing roll assembly from the side of the closer and be sure the bag film guide assembly is square to the closing roll and not in a bind. Also check to see that there is clearance between the closing roll and the bag film guide assembly. Readjust the bag film assembly if needed.

F. CAM THE CLOSURE JAW: (Figure 5.6)

As the closure comes into contact with the main bag film guide, the jaw of the closure is CAMMED open slightly. This allows more space in the closure jaw for the bag film to enter the closure. Camming the closure jaw is defined as offsetting the bottom jaw from the top jaw. This adjustment is made after the height of the bag film guide assembly has been adjusted. Refer to "E" previous page.

1. Slightly loosen the top film guide mounting screw located on the side of the closer mainframe.
2. Rotate the assembly slightly, to bring the bottom closure jaw to the position shown. There should be a 1/32" (0.8mm) gap between the lower closure jaw and the upper closure jaw.
3. Tighten the top mounting screw.
4. Be sure the clutch-actuating lever clears the breakoff lever and closing roll. If necessary, loosen the bottom assembly mounting screw and square up the bag film guide assembly for clearance of the clip track or closing roll
5. Check the closure cam measurement.
6. Check the height of the film guide (step 2).
7. Re-adjust if needed.

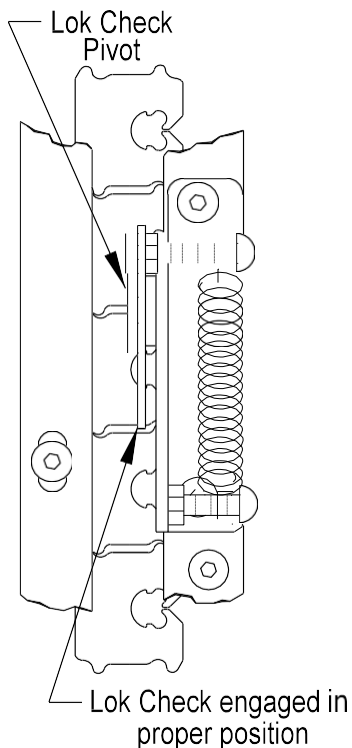


Figure 5.7

G. CHECK ADJUSTMENT: (Figure 5.7)

When properly adjusted, the point of the clip check drops into the closure web as the pick brings the closure strip down the clip track at the end of the closing cycle. As the pick slides up the closure strip to advance the next closure into closing position, the clip check prevents the closure strip from sliding up the clip track with the pick. Adjust as follows:

1. Actuate the closer one time slowly and watch the pick as it brings down the next closure. The pick stops in its lowest position.
2. With the check-pick in operating position, loosen the check-pick pivot nut and raise or lower the clip check until the tip of the clip check is slightly above the middle of the notch between the two closures.
3. Tighten the check-pick pivot nut.
4. Cycle the closer and observe the position of the clip check. When properly adjusted, the closure strip will back up slightly and engage the tip of the clip check as the pick raises to bring down the closure strip.

H. CLIP BREAKOFF LEVER: (Figure 5.8)

When properly adjusted the breakoff lever pivots up from the breakoff pivot point, breaking the closure from the closure strip. Then the breakoff returns to the neutral operating position. If the breakoff linkage is misadjusted, it can be damaged. Adjust as follows:

1. To check the breakoff adjustment, turn the closing head on and turn the speed control setting all the way down. This energizes the clutch actuating circuit, but does not supply power to the drive motor.
2. Press and release the actuating switch located on the electrical box. The clutch solenoid will actuate the clutch with an audible "click".

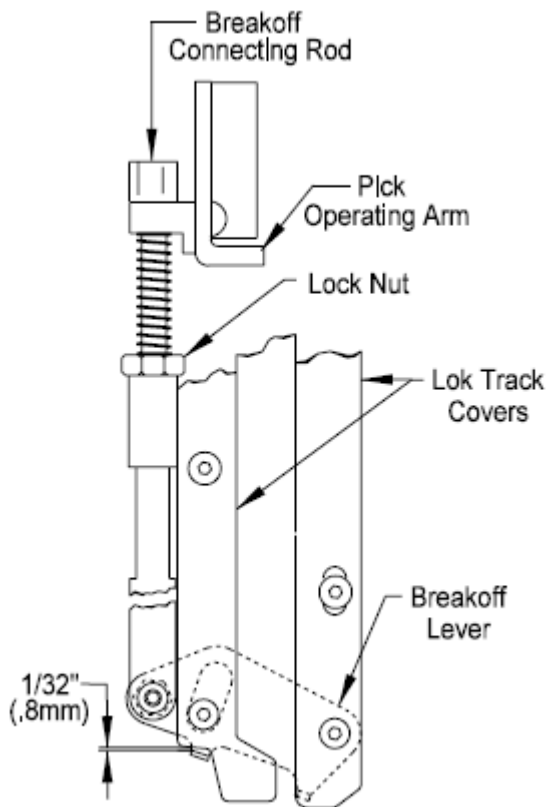


Figure 5.8

3. Rotate the closing roll by hand and observe the rotation of the breakoff lever as it rotates through the breakoff cycle. As the breakoff lever reaches the top of the breakoff cycle, there should be 1/32" (.8mm) clearance between the edge of the breakoff lever and the bottom of the clip track. This indicates proper adjustment. If the clearance is too wide, then the breakoff lever is not utilizing the entire breakoff stroke. If the clearance is less than 1/32" then the breakoff linkage may be binding.
4. If adjustment is needed, loosen the clip nut on the breakoff connecting rod. Rotate the rod in or out as needed to achieve the required 1/32" clearance to ensure proper operation of the breakoff lever.
5. After the adjustment has been made, again cycle the closer to verify the proper adjustment has been made.

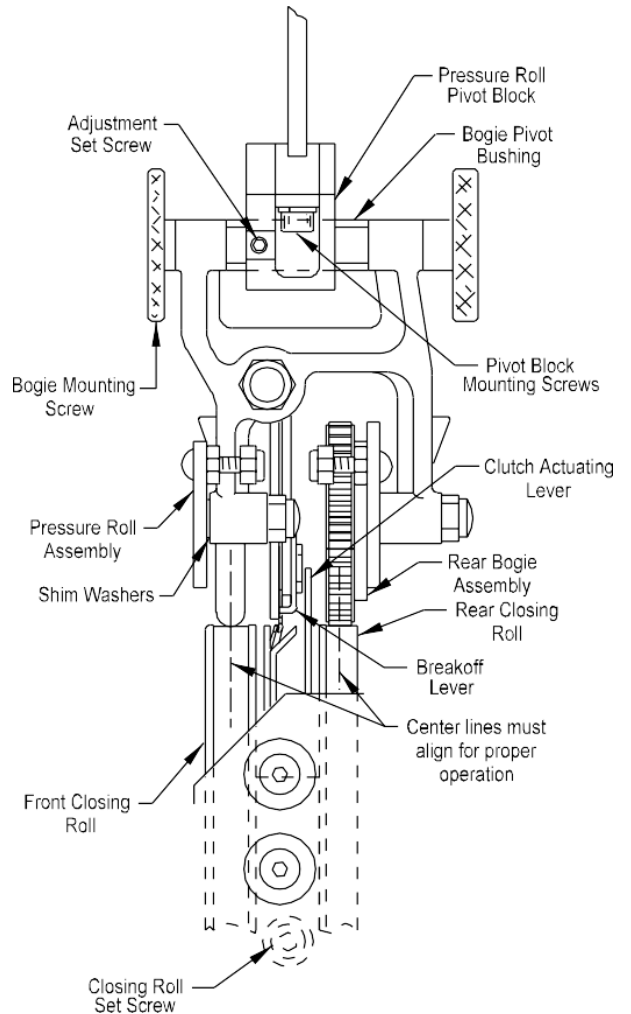


Figure 5.9

CAUTION
IF THE BREAKOFF LINKAGE IS NOT ADJUSTED PROPERLY THE LINKAGE CAN BE BROKEN IF THE CLOSER IS CYCLED.

I. BOGIE TRACKING ALIGNMENT WITH CLOSING ROLL: (Figure 5.9)

The bogie assembly and closing roll assembly must track together in parallel. Observe the tracking between the two assemblies from the point where the bag film enters the closer. Compare the tracking from this view, to the tracking of the two assemblies as viewed from the side of the closer (from which the bag film exits the closer). If the bogie assembly and the closing roll assembly are not tracking parallel, adjust as follows:

1. Loosen the two pressure roll hinge block mounting screws slightly. The oversized holes will allow for alignment of the bogie pressure roll assembly tracking. The bogie belt must be parallel to the closing roll rim tire it is riding on. Excessive wear will take place if improper tracking is allowed to persist.
2. If the bogie belt can be seen riding in a crooked fashion on the closing roll tire, move the pressure roll hinge block as needed to correct the tracking problem.
3. Tighten the mounting screws.
4. Check the adjustment again and readjust if needed.

J. CLOSING ROLL: (Figure 5.9)

The closing roll is positioned on the closing roll shaft. When properly set, the closing roll aligns with the clip track and bag film guides (refer to C, D, E and F this section). Adjust the closing roll as follows

1. With the closer off, loosen the closing roll locking setscrew and slide the closing roll along the closing roll shaft until it appears to line up with the bogie assembly.
2. With the setscrew loose, rotate the closing roll slowly under power observing the tracking of the bogie to the closing roll. Check to see that the bogie belt assembly and pressure roll assembly are tracking in the middle of the front and rear closing roll rims.

3. Tighten the closing roll set screw when adjusted.
4. After the closing roll is adjusted, check the alignment of the bogie assembly

NOTE: If you observe that the closing roll rim centers do not measure the same width as the pressure roll assembly and the bogie belt assembly, shims may be added or removed from behind the pressure roll assembly. Consult the Parts Identification section for the bogie pressure roll kit.

K. BOGIE ASSEMBLY LATERAL ADJUSTMENT: (Figure 5.9)

The bogie assembly is designed and intended to track squarely on the closing roll. Adjust as follows:

1. Identify the pressure roll hinge block and locking setscrew.
2. Loosen the setscrew.
3. Cycle the closer under power, slowly at first, and observe the bogie and closing roll from the input side of the closing roll.
4. Lightly tap the bogie mounting screw as needed to center the bogie belt and pressure roll assembly to the closing roll tires. With the adjustment complete, there should be 1/16" (1.6mm) clearance between the bogie pressure rolls and the breakoff lever.

NOTE: The closing roll locking setscrew can be loosened and the closing roll moved on the closing roll shaft to center the closing roll to the bogie.

5. Tighten the locking setscrew when tracking alignment has been satisfied.

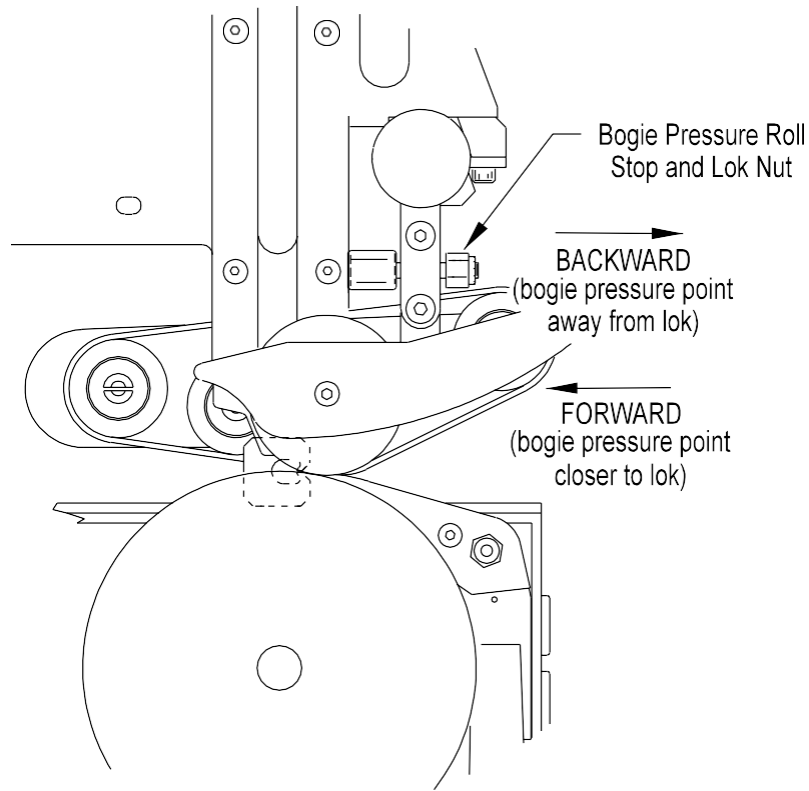


Figure 5.10

**L BOGIE PRESSURE ROLL ASSEMBLY STOP:
(Figure 5.10)**

The bogie pressure roll assembly is properly adjusted when the bogie forward position is only enough to feed all of the bag film into the closure opening. Check and adjust the position of the bogie pressure roll assembly as follows:

1. Move the pressure roll assembly out away from the closure jaw opening by turning the pressure roll stop out one full turn. Repeat until 1/8" (3mm) of bag film is left out of the closure consistently.
2. Rotate the pressure roll assembly stop in the opposite direction, until the bag film is again completely gathered into the closure opening consistently.
3. Tighten the lock nut.

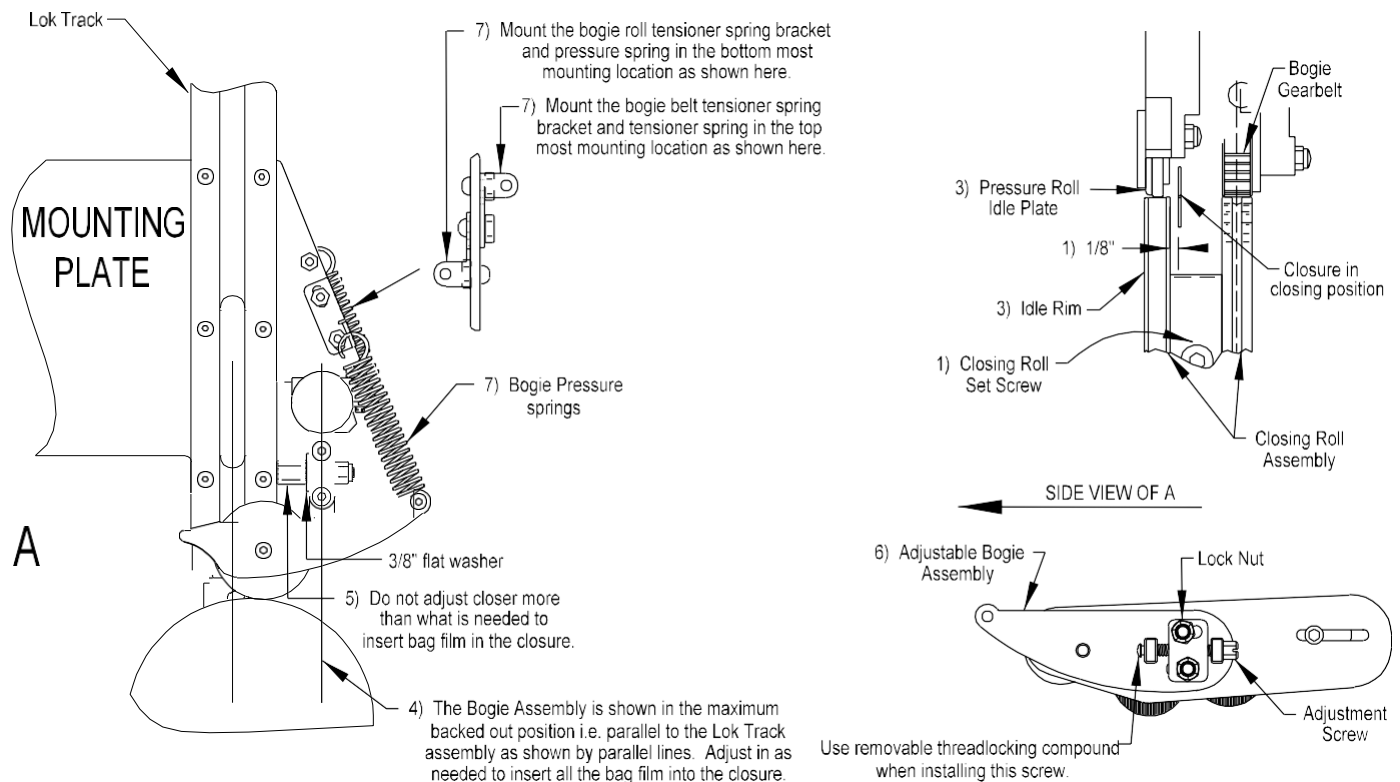


Figure 5.11

**M. IDLE RIM BOGIE SYSTEM ADJUSTMENT:
(Figure 5.11)**

In order to maintain efficient operation for the idle rim closing system, the following adjustments should be checked on a regular basis.

1. Set the Idle rim closing roll to the closing roll shaft so the inside of the front section of the closing roll is 1/8" in front of the closure. Tighten the closing roll setscrew.
2. Rotate the circular sheet metal cover on the closing roll hub to cover the setscrew hole.
3. Adjust the bogie horizontally so the bogie gearbelt is centered on the back gear ring of the closing roll assembly. Tighten the bogie assembly setscrew to the pressure roll pivot bushing.
4. With the bogie gear belt centered to the closing roll it may be necessary to adjust the floating pressure roller to line up with the front closing roll ring. This is done by shimming the pressure roll assembly. When properly adjusted the front pressure roll should be centered on the black closing roll tire.

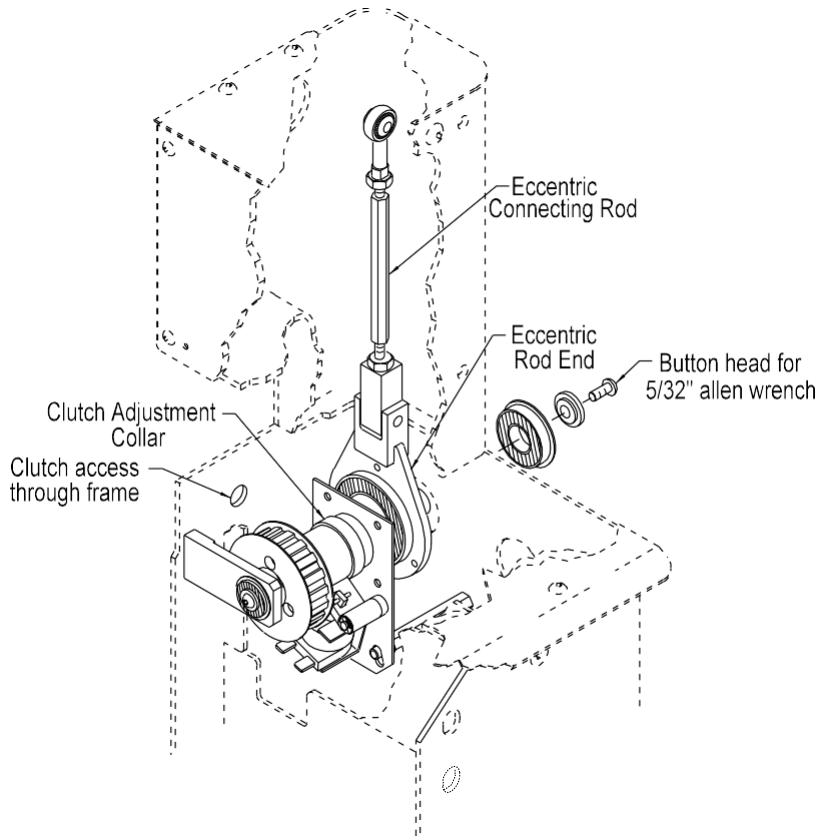


Figure 5.12

5. The bogie assembly must be as close to parallel with the vertical edge of the track assembly as possible, and still be able to insert the bag film into the closure.
6. The bogie adjustment screw SHOULD NOT be adjusted for any reason other than to initially set the bogie for the proper bag insertion.
7. Adjust the bogie assembly using the adjustment screw shown. The 1/16" dimension is approximate and may be increased or decreased to completely close the bag without tearing.

For proper pressure to the bogie assembly, the correct springs must be used. Springs must be anchored in the position shown for a uniform gathering of the bag neck into the closure. Proper spring anchor positions are shown.

**N. CLUTCH ADJUSTMENT:
(Figure 5.12)**

The clutch controls actuation of the pick and breakoff lever. When the clutch is actuated, the pick moves up the closure strip to the top of the pick stroke. It then begins moving downward engaging the closure strip, advancing the closure strip down the clip track and moves the next closure into closing position

As the pick moves up through the pick stroke, the breakoff linkage lifts the breakoff lever. This breaks off the bottom closure and clears the bottom of the clip track. The index-pick is then allowed to place the next closure in closing position in preparation for the next cycle.

The Closelt® machine is shipped with a pre-adjusted clutches that do not need adjustment. Replacement clutches are pre-adjusted at the factory. When replacing a clutch, proper adjustment should be checked. Check and adjust the clutch as follows:

1. Check to see if the clutch is in proper adjustment:
 - a. Turn the machine on and adjust the speed control so the closing roll is turning as slowly as possible.
 - b. Press the test button to actuate the clutch and observe the movement of the pick. If the clutch is properly adjusted, the pick will stop at the absolute bottom of the pick stroke as the clutch returns to neutral. If the clutch is out of adjustment, the pick will stop before or after the absolute bottom of the pick stroke, as the clutch returns to neutral.
2. With the closer on, but turned ALL the way down, actuate the clutch.
3. Turn the closing roll by hand, while observing the clutch adjustment collar through the access hole in the side of the closer frame. Locate and loosen the two setscrews in the clutch adjustment collar.
4. With the clutch adjustment collar set screws loose, rotate the closing roll until the clutch is back in the neutral position.
5. Open the electrical box and locate the end of the clutch shaft. Use a 5/32" hex wrench placed in the button head at the end of the

shaft, and rotate the clutch shaft FORWARD manually. FORWARD is defined as the direction the clutch shaft turns under normal operation.

6. Turn the clutch shaft FORWARD until the pick is at the absolute bottom of the pick stroke.
7. Actuate the clutch. Rotate the closing roll until the clutch adjusting collar set screws come into view through the access hole. Tighten each of the setscrews.
8. Cycle the closer slowly under power and watch the position of the pick at the end of the cycle. As the clutch actuates, verify that the pick is at the bottom of the pick stroke. Readjust if needed.

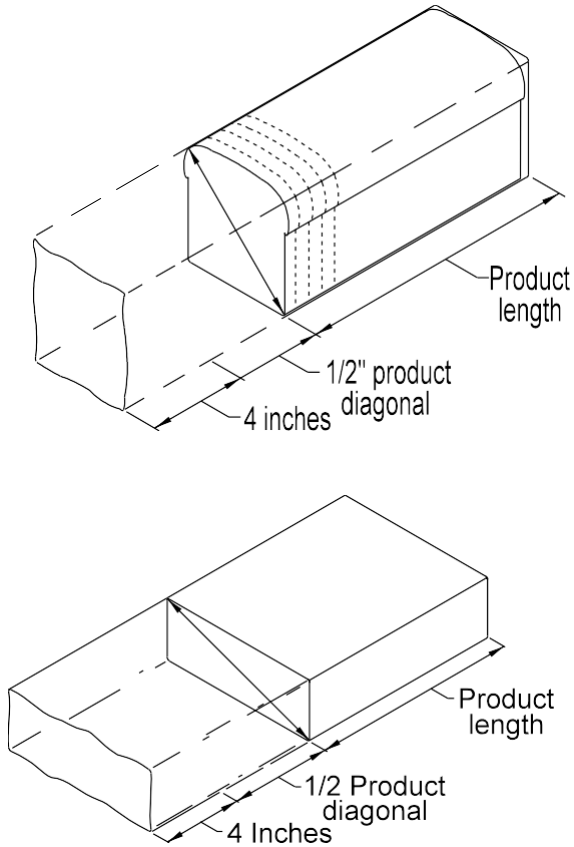
Troubleshooting

PROBLEM	SYMPTOM	CORRECTION
A. Bag burn hole just inside closure opening.	1. Package closed too tight.	Adjust angle of closing head, see Section II, Part D, E or F and G.
	2. Pressure roll assembly adjusted too far into the closure.	Back pressure roll assembly out, see Section V, Part L.
	3. Front pressure roll bearing sticking.	Replace bearing.
B. Knife-like cut in closure area of bag.	1. Closure opening is positioned too high or too low.	Raise or lower closure, see Section V, part D.
	2. Film guide too low.	Raise film guide, See Section V, part E.
	3. Pressure roll is rolling on closing roll edge.	Align pressure roll assembly, see Section V, part I.
	4. Closing roll has nicks, cuts or scratches on it	Polish closing roll rings with fine emery cloth.
C. Bag is not completely fed into the closure opening	1. Bogie pressure roll assembly is backed out too far.	Adjust bogie pressure roll assembly stop, see Section V, Part L.
	2. Bogie pressure roll assembly does not pivot at either or any of the three pivot points.	a. Check the self-locking nut for being too tight. b. Lubricate bogie pressure roll assembly. (Use oil holes provided.)
	3. Bogie belt worn: Not getting a good grip on the bag film.	Replace bogie belt. See Section VII for part and assembly (pages 7.13 - 7.20).
	4. Bag width too wide.	Closure opening too small to accommodate the wider bag. Contact factory for instruction (send bag sample).
	5. Closure is not cammed enough to allow bag film to enter closure opening.	Cam the closure jaw, see Section V, part F.

D. Closing Head will not break off closure.	<ol style="list-style-type: none"> 1. Breakoff lever does not cycle far enough. 2. Bag neck is too short to trip the clutch-actuating arm to begin closing cycle. 3. Breakoff mounting screws loose, allowing flange to slip off closure. 4. Break-off lever has one flange broken off. 	<p>Adjust breakoff cycle, see Section V, Part H.</p> <ol style="list-style-type: none"> a. Check bag length formula for proper length of bag. See Appendix. b. Check bag length rail on conveyor <p>Tighten screws and check adjustment, see Section V, part H.</p> <p>Replace break-off lever with new. Adjust if needed, see Section V, part H.</p>
E. Closures jam and do not advance.	<ol style="list-style-type: none"> 1. Closures are too tight in clip track. 2. Clip check not engaging in the strip notch. 3. Clip check is open. 4. Closures are colliding with the breakoff lever flange. <ol style="list-style-type: none"> a. Break-off lever return spring is not attached. b. Break off mounting screws and/or nuts are missing. 5. Closures collide and jam against misadjusted back film guide. 	<ol style="list-style-type: none"> a. Clip guides are too close together. Loosen clip track screws and space guides apart properly, see Section V, part B. b. Remove all foreign material from clip track. <p>Adjust clip check, see Section V, part G.</p> <p>Close the clip check into the notch.</p> <p>Reattach spring.</p> <p>SECTION VII Parts Identification has breakoff parts, Figure 7.14-VI, Figure 7.15-VI, Figure 7.16-J or K, Figure 7.17-JW, KW or Z closures.</p> <p>Set the clip cam, see Section V, part F. Replace if needed.</p>
F. Machine does not cycle.	<ol style="list-style-type: none"> 1. Machine not connected to power 2. Obstruction is holding the clutch-actuating arm in the “down” position. 	<p>Conned to Power</p> <p>Remove obstruction. Clutch actuating arm has to return to the “up” position for the machine to cycle</p>

Appendix

BAG LENGTH FORMULA



To determine the proper bag length * for a consistently shaped product follow this formula:

Total bag length equals length of product plus 1/2 of the diagonal of the product end plus 4 inches.