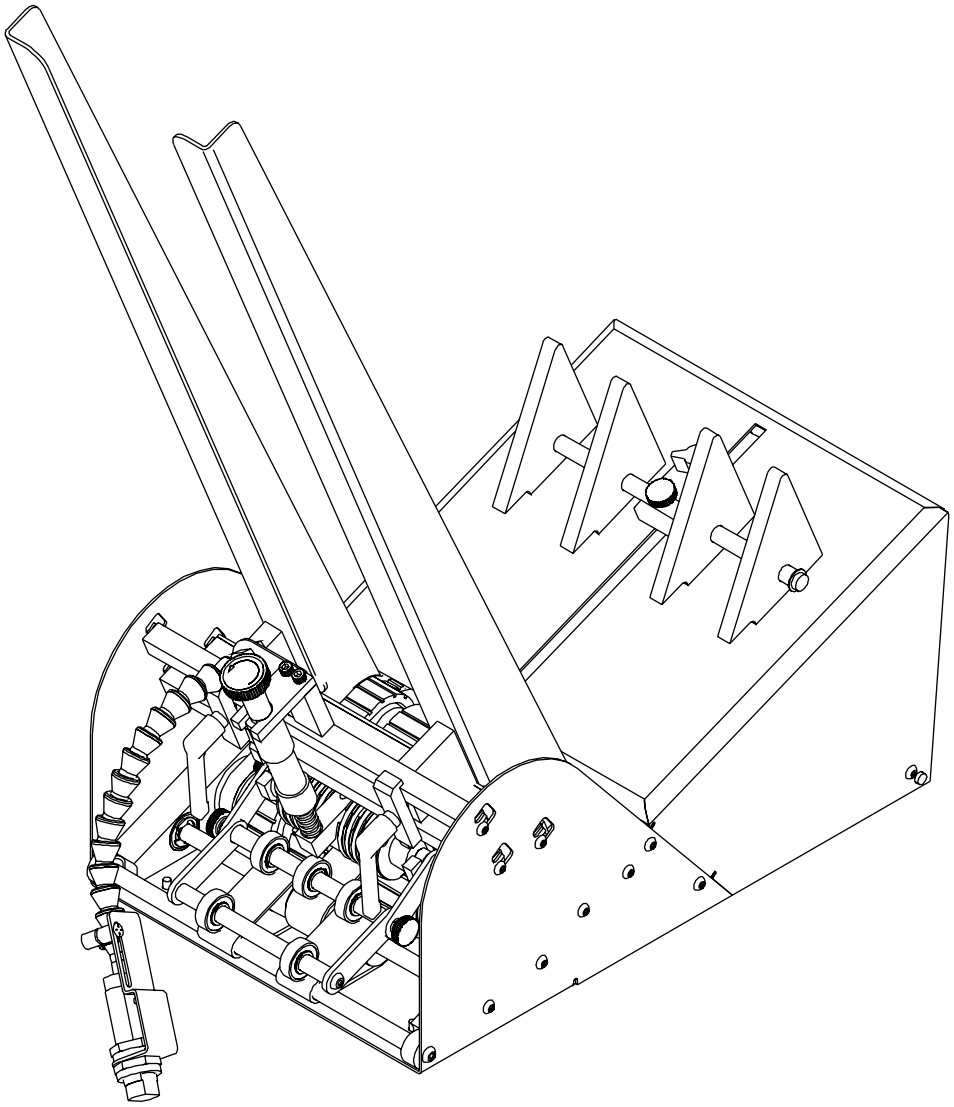
Value Series V-500

Product Guide



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A Barry-Wehmiller Company

Streamfeeder®

Part Number: 00900202

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Before You Begin

Message Conventions

DANGER signifies an action or specific equipment area that can result in serious injury or death if proper precautions are not taken.

WARNING signifies an action or specific equipment area that can result in personal injury if proper precautions are not taken.

CAUTION signifies an action or specific equipment area that can result in equipment damage if proper precautions are not taken.

ELECTRICAL DANGER signifies an action or specific equipment area that can result in personal injury or death from an electrical hazard if proper precautions are not taken.

TIP signifies information that is provided to help minimize problems in the installation or operation of the feeder.

NOTE provides useful additional information that the installer or operator should be aware of to perform a certain task.

CHECK signifies an action that should be reviewed by the operator before proceeding.

IMPORTANT alerts the installer or operator to actions that can potentially lead to problems or equipment damage if instructions are not followed properly.

WARNING LABELS affixed to this product signify an action or specific equipment area that can result in serious injury or death if proper precautions are not taken.

Before You Begin

Message Conventions

Avoid injury. Do not reach around guards.

Hazardous voltage. Contact will cause electric shock or burn. Turn off and lock out power before servicing.

Moving parts can crush and cut. Keep guards in place. Lock out power before servicing.

Pinch point. Keep hands and fingers clear.

Moving parts can crush and cut. Keep guards in place. Lock out power before servicing.

SAFETY

Make sure you thoroughly read this section to become familiar with all the safety issues relating to the safe operation of this product.

Please read all of the warnings that follow to avoid possible injury. Although every effort has been made to incorporate safety features in the design of this product, there are residual risks that an installer or operator should be aware of to prevent personal injury.

Please read all of the cautions that follow to prevent damage. This product is built with the highest quality materials. However, damage can occur if not operated and cared for within design guidelines as recommended.

Danger

- **Equipment interior contains incoming 115 or 230VAC electrical power. Bodily contact with these high voltages can cause electrocution, which can result in serious injury or death.**

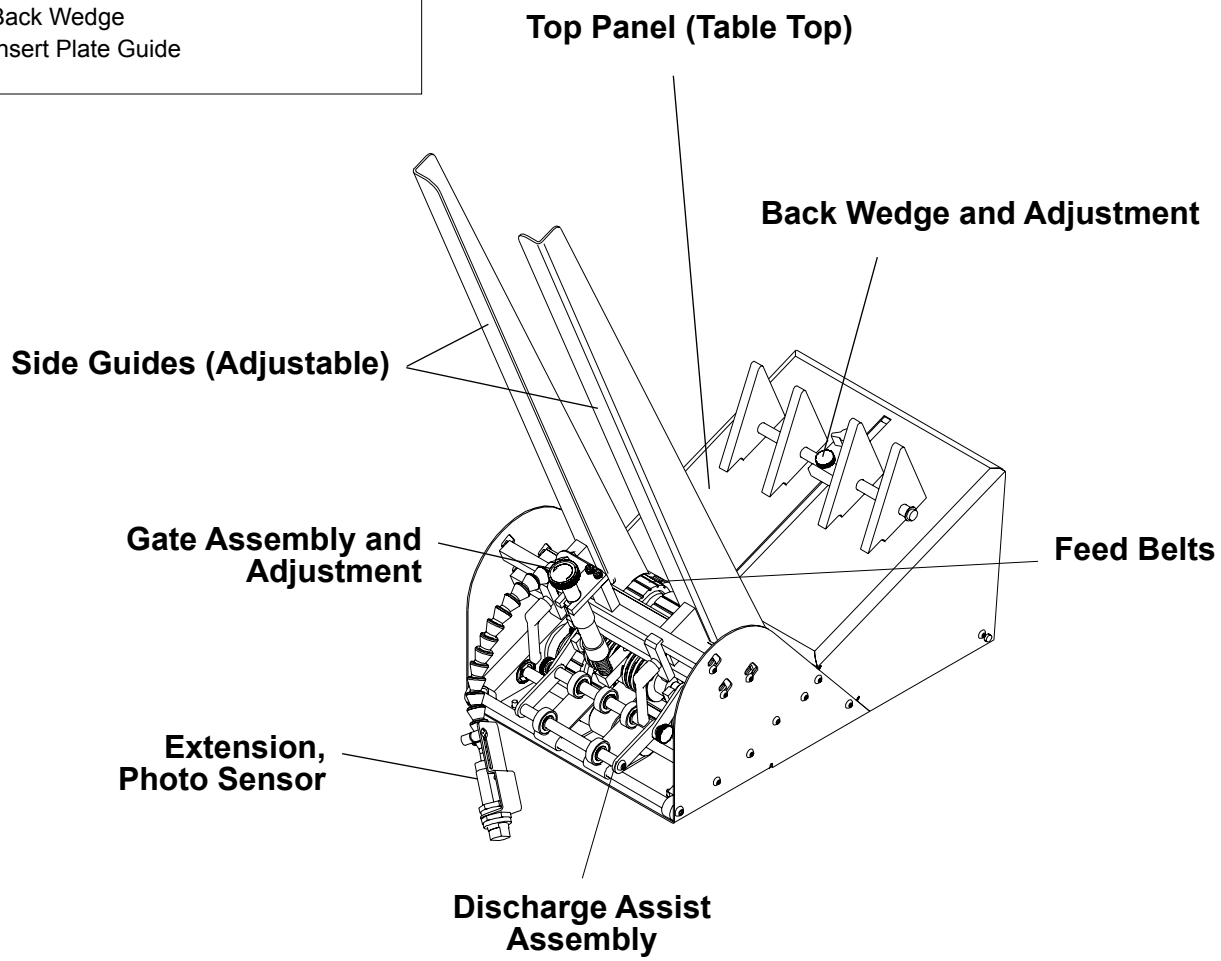
1 About Your Machine

Features

The V-500 is designed for use with multi-station inserters to efficiently separate, singulate, and feed a wide variety of cut sheets and non-nested material. After material is loaded into the hopper, the rest is automatic. With photo sensor monitoring, feed cycling is always sychronized with the inserter gripper jaw.

Loose Parts Supplied

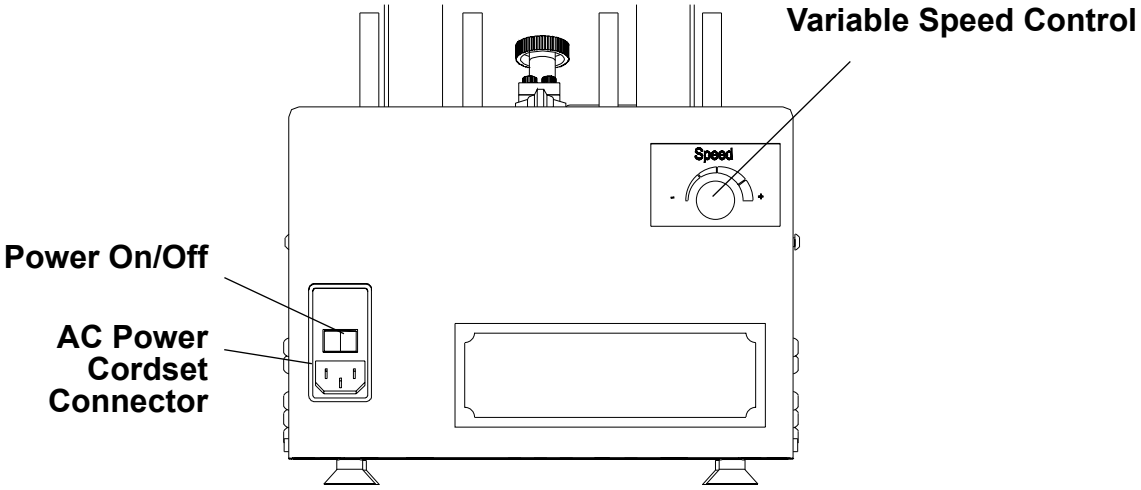
- AC Power Cord
- Side Guides (2)
- Hold-Down Spring Assemblies (2)
- Side Guide Wing-Nut Assemblies (2)
- Back Wedge
- Insert Plate Guide



Main Assemblies Feature Descriptions

Feature	Description
Gate assembly and adjustment	Mounted on a gate bracket assembly directly above the feed belts, this device provides a curvature to help preshingle stacked material. When properly adjusted, a clearance is created to help singulate and feed material. *(Note: For multiple page material, a 1 to 1.5 maximum thickness is typical.)*
Top panel (table top)	Used to support the back wedge.
Side guides (adjustable)	Holds a stack of material to be fed and helps keep it straight for proper entry through the gate assembly area. Also referred to as “hopper”. *(Note: Loading can be performed from either the front or back of inserter.)*
Back wedge and adjustment	Lifts the material to keep it off the table top, reduces excessive contact with the feed belts, and helps push the material against the curvature of the gate assembly.
Extension, photo sensor	Controls the starting and stopping of a feed cycle by sensing the presence or absence of material. To ensure proper alignment of the sensor, a flexible extension allows you adjust it for proper distance and angle to the material.
Feed belts	Provides the friction and motion necessary to pull individual material from the bottom of the stack and through the gate assembly area.
Discharge assist assembly	A series of small rollers mounted on movable brackets help to gently hold material down on the feed belts as material exits the gate assembly area. These brackets and rollers are part of the gate assembly and are removed when the gate assembly is removed.
Loose Parts	
AC power cord, 8 ft. (2.44 m)	IEC320 removal three-prong. Shipped loose.
Hold-down spring assemblies	As a piece of material exits the feeder gate assembly area, these two hold-down spring assemblies help keep it aligned and in proper position for the gripper jaw. Shipped loose and mounted on inserter.
Side guide wing-nut assemblies	Secures side guides to the cross-bar. Loosening each allows you to move each side guide horizontally to accommodate various material sizes.
Insert plate guide	This plate is supplied with your feeder and is to be mounted on the back deck plate. Shipped loose and mounted on inserter (if required).

Control Panel Components



Control Panel Components

Control Panel Feature Descriptions

Feature	Description
AC power cordset connector	Cordset plugs into this IEC320 connector to provide feeder with power from a grounded/fused outlet.
Power On/Off	Toggles AC power On or Off.
Variable speed control	Varies the feed rate to synchronize with inserter speed.

2 Installing the Machine

When performing initial installation, always make sure you turn Off the main power switch and disconnect all equipment from the electrical power source. Failure to do so can expose you to a potential start-up, and therefore moving parts which can cause serious injury.

Do not attempt feeder installation while the inserter is running. Failure to do so can expose you to moving parts which can cause serious injury.

Avoid turning on the feeder or making initial adjustments until all parts are secured. Failure to do so can cause damage to equipment.

Installation of the V-500 onto the back deck plate of an inserter is a relatively simple procedure, with only minor modifications to the selected insert station prior to attaching the feeder. The entire installation can typically be done with a hex-head driver set and a slotted screwdriver.

To install the feeder, perform the following steps:

1: Remove rear guide assembly

2: Remove T-plate

3: Reposition separator foot

4: Remove suction cup and close off vacuum hose

5: Reposition insert guide tabs

Optional step: Install insert plate guide

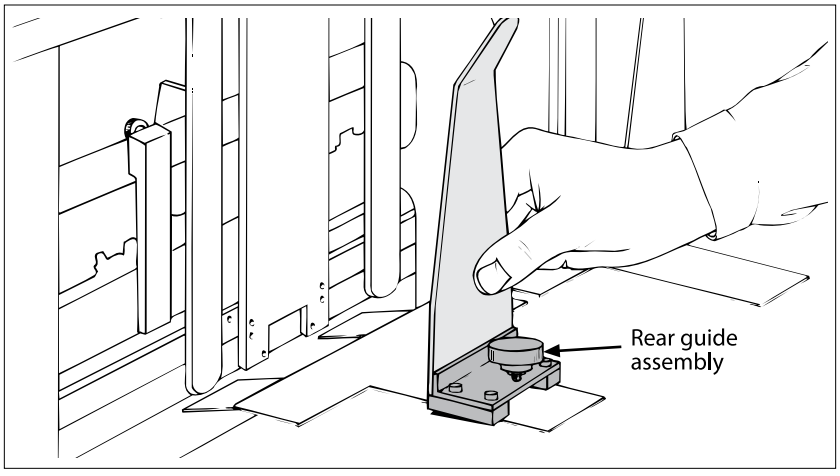
6: Install feeder hold-down spring assemblies

7: Align and secure feeder to insert station

8: Perform initial photo sensor positioning

STEP 1: Remove Rear Guide Assembly

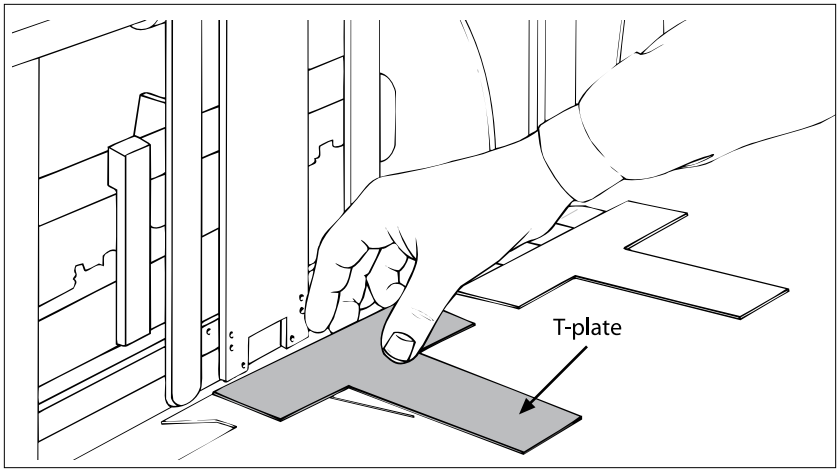
At the selected insert station, remove the fasteners that hold the inserter rear guide assembly to the inserter back deck plate. Lift rear guide assembly off of back deck plate.



Remove Guide Assembly Rear from Inserter

STEP 2: Remove T-Plate

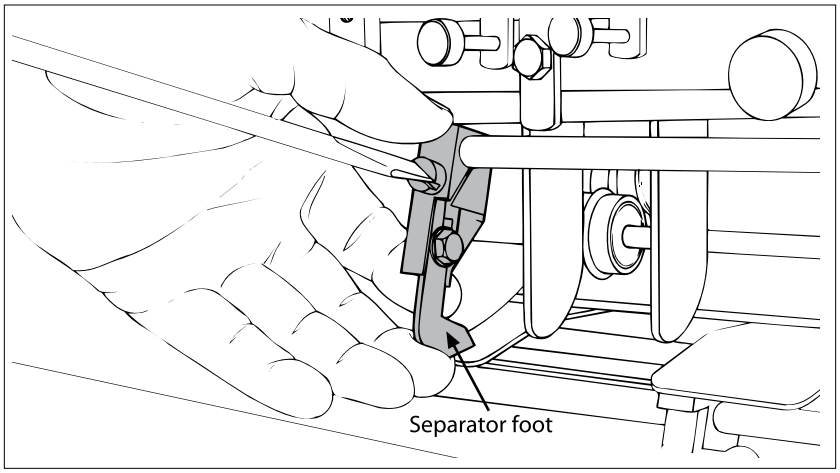
With the rear guide assembly removed, you can now access the inserter T-plate. Simply lift off of back deck plate.



Remove T-Plate from Inserter

STEP 3: Reposition Separator Foot

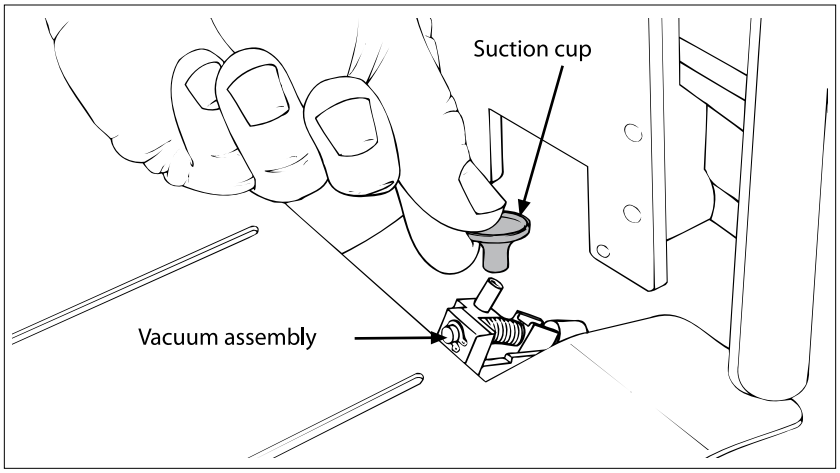
- Locate the separator foot at the front side of the inserter station (attached to top rotating shaft).
- With a screwdriver, loosen the inserter separator foot and tilt away slightly from insert station assembly (opposite feeder) so that foot does not interfere with material being fed.
- Retighten to secure.



Reposition Separator Foot at Front of Inserter

STEP 4: Remove Suction Cup and Close Off Vacuum Hose

- Locate the suction cup and hose from front side of insert station.
- Remove suction cup from vacuum assembly.
- Lower and tilt the adjustable vacuum assembly forward (by turning the built-in thumbscrew). The vacuum assembly may be moved down and to one side if it interferes with the material being fed.
- Close off the vacuum hose opening; any convenient plugging method will do.



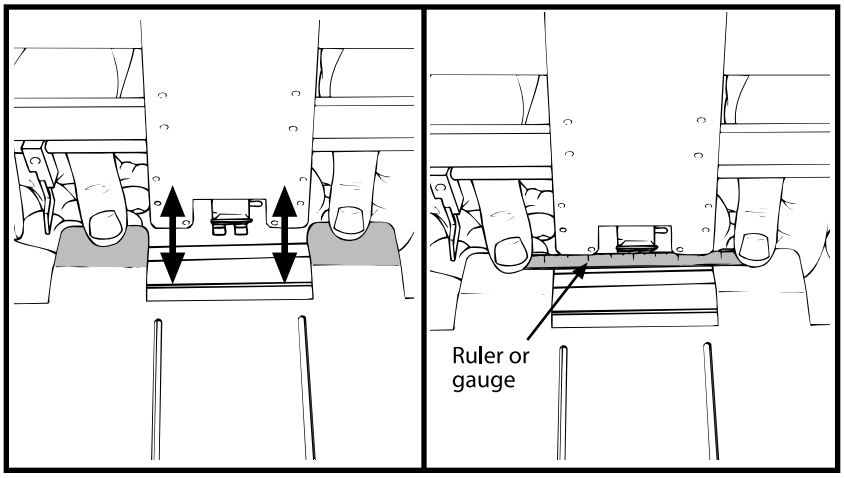
Remove Suction Cup from Vacuum Assembly

STEP 5: Reposition Insert Guide Tabs

- Cycle the inserter until the gripper arm jaw is approximately 1/2 in. (12.7 mm) from the hopper plate (leading edge of material exiting feeder stops here).
- Locate the two insert guide tabs that protrude from under the back deck plate. Bend these tabs as required (either up or down) until their top surface is slightly above the bottom of the gripper arm jaw. The material to be run will rest on these tabs. The bottom of the gripper arm jaw must pass under the material without making contact with it.
- As it is important that there be adequate clearance between the guide tabs surface and the gripper jaw, use a flat, thin rule (or gauge) to test for clearance. Ideally, with the griper jaw should be fully open when testing.
- Center the gauge on the guide tabs and slide the gauge back and forth on the tabs, making sure the gripper jaw does not touch the bottom of the gauge.

NOTE

Inscerco inserters only:
Remove the two insert guide tabs that protrude from the back deck plate. Make a bend in each tab approximately 1-3/8 in. (34.9 mm) from the tip by placing the tab approximately 1-3/8-in. (34.9 mm) into the rear guide assembly. Bend the tab slightly and repeat same for second tab. Reinstall insert guide tabs to back deck plate.

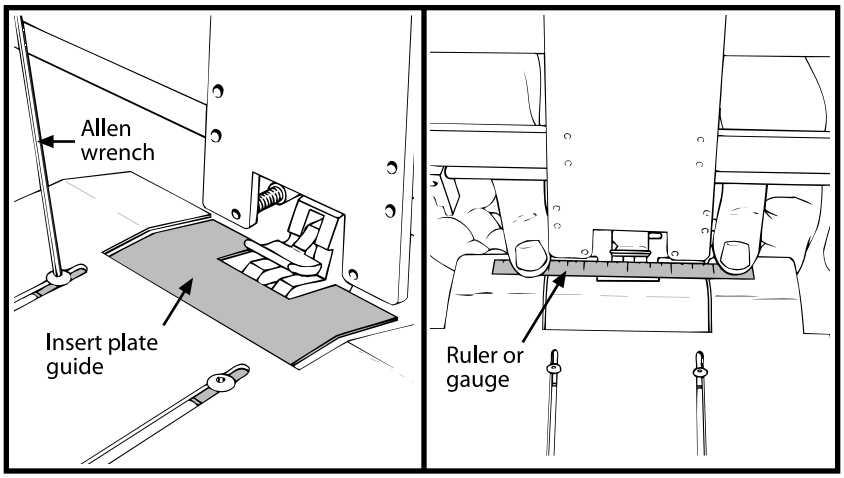


Reposition Guide Tabs and Test for Clearance

Optional Step: Install Insert Plate Guide

When feeding materials less than 5 in. (12.7 cm) wide, you must install the provided insert plate guide with your machine. Install it from the underside of the back deck plate using the two provided hex-head screws; reuse the two slots previously used for mounting the rear guide assembly.

- Start the screws from the top side of the back deck plate, leaving them loose so that you can move insert plate guide during placement.
- Position the insert plate guide so that the top surface is slightly above the bottom of the gripper arm jaw.
- Tighten to secure.
- As it is important that there be adequate clearance between the guide tabs surface and the gripper jaw, use a flat, thin rule (or gauge) to test for clearance. Ideally, with the griper jaw should be fully open when testing.
- Center the gauge on the guide tabs and slide the gauge back and forth on the tabs, making sure the gripper jaw does not touch the bottom of the gauge.

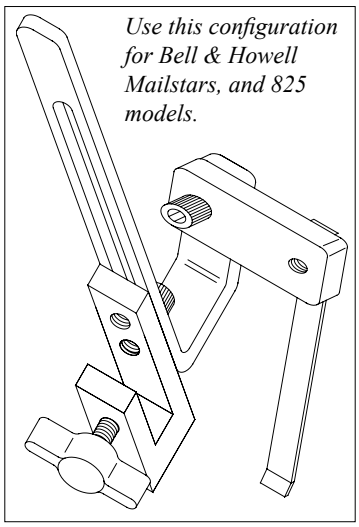


Install Optional Insert Plate Guide and Check for Clearance

STEP 6: Install Feeder Hold-Down Spring Assemblies

NOTE

Certain inserter models require hold-down spring assemblies to mount from the bottom side of the cross-bar (see figure below). To invert, simply remove screw and invert L-bracket and spring.



Use this configuration for Bell & Howell Mailstars, and 825 models.

TIP

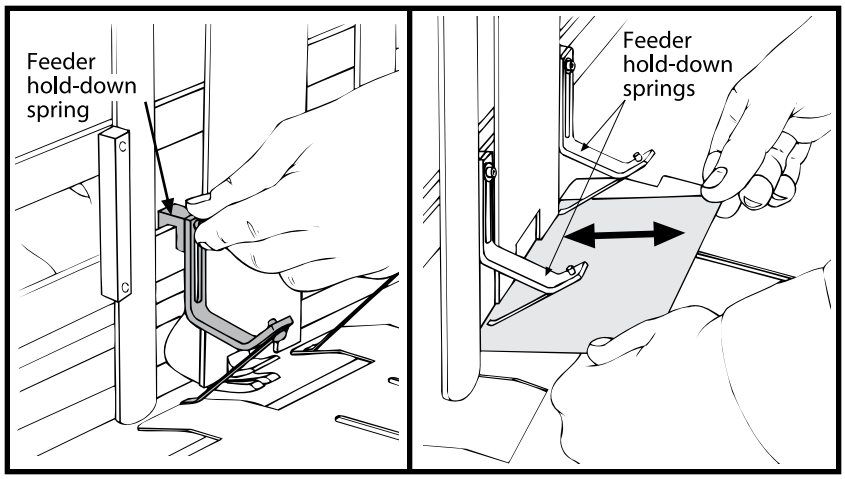
Knowing how far from each edge of the material to place the hold-down spring assemblies is a combination of intuition and testing.

TIP

With material inserted between the springs and the insert guide tabs, test the spring tension by sliding the material back and forth. Tension should not be so great that it distorts the material as it moves.

If adjustment is required, loosen the hex-head screw for each spring and move up or down on support bar. Retighten when optimum tension is achieved.

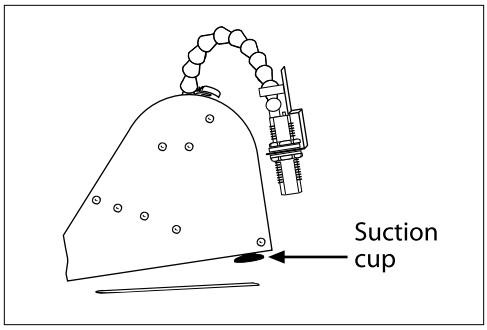
- Using the two provided hold-down spring assemblies (with support bars), place each on the insert station rail (feeder side of inserter).
- Position each spring support bar so that they are equally spaced from each edge of the material to be run.
- Tighten the built-in wing nut on each to secure.
- Check for placement and pressure of the hold-down spring assemblies by sliding a piece of material to be run under the springs. There should be a "slight drag" when moving the material back and forth.
- Make adjustments as required and recheck.

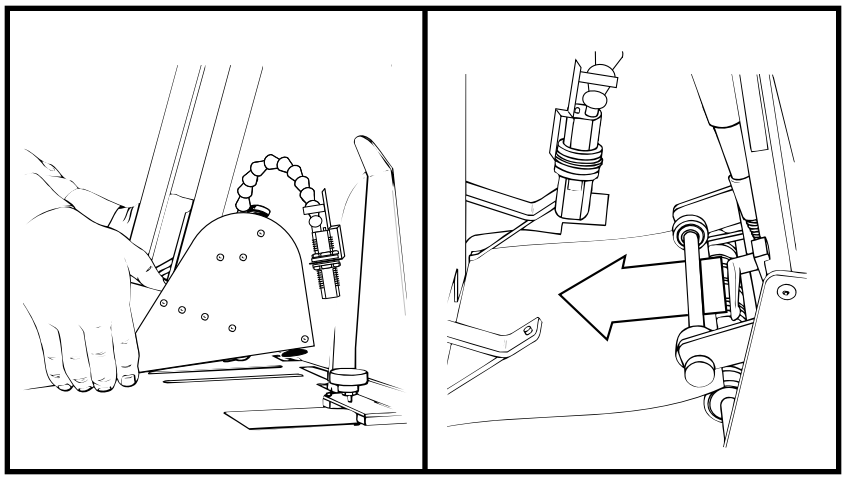


Install Hold-Down Spring Assemblies and Test for Drag

STEP 7: Align and Secure Feeder to Insert Station

- Using your finger, turn the drive belt to advance a piece of your material through the gate assembly area and under the feeder hold down springs.
- Continue advancing the material until the trailing edge of material fits between the feeder exit rollers (.25 in. to .5 in., or 6.4 mm to 12.7 mm of material).
- Carefully slide the feeder into the inserter station and center the leading edge of your material under the inserter hold-down springs. Ensure the front edge of the material is in-line with the front hopper plate.
- Once you are satisfied with the feeder alignment, press down on the feeder top plate to secure the feeder suction cups to the inserter rear deck plate.

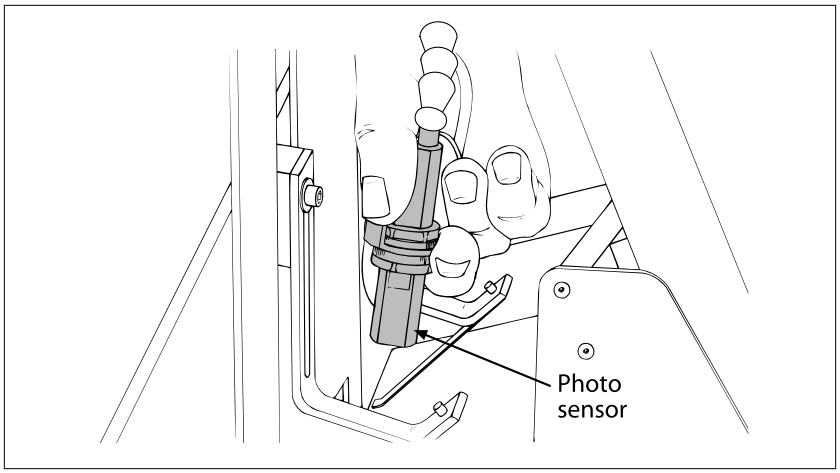




Align Feeder with Insert Station

STEP 8: Perform Initial Photo Sensor Positioning

- With the machine turned Off, position the photo sensor by sighting along the sensor barrel. It should point exactly at the leading edge of material being held by the hold-down springs.
- Use the adjustable extension to maneuver the photo sensor into position for desired height and angle.
- During the final adjustment of the photo sensor, you need to actually load material into hopper, turn the feeder Off, and cycle the inserter. See “Preparing for Operation” section for more information.



Perform Initial Photo Sensor Adjustment

3 Preparing for Operation

When performing initial feeder adjustments prior to operation, always make sure you turn Off the main power switch and disconnect the inserter from the electrical power source. Failure to do so can expose you to a potential start-up, and therefore moving parts which can cause serious injury. In steps 1–3, do the same for the feeder.

Do not attempt to make any adjustments while the feeder(s) and inserter are running. Failure to do so can expose you to moving parts which can cause serious injury. Do not wear loose clothing when operating the feeder.

Avoid making adjustments with loose or unsecured parts. This can potentially damage parts.

Once the \V-500 \is installed on your inserter, you are then ready to prepare the machine for operation. To do so, you must perform several adjustments with the material you are going to be feeding. And, you must do a test run with this material to verify that it is set correctly before you begin cycling the inserter. *You will have to perform this procedure for material that you plan to feed.*

The adjustments you must make (in order) are as follows:

1: Gate assembly adjustment

2: Side guides setting

3: Back wedge setting

4: Photo sensor setting

5: Inserter adjustments and final check

STEP 1: Gate Assembly Adjustment

NOTE

Hopper refers to the space where the material is stacked (made up of the side guides).

NOTE

Keep in mind that the gate assembly works with the wedge to provide the proper lift, curvature of the material, and proper belt/material contact to separate and feed one piece at a time.

IMPORTANT

Feeding problems will occur with either too much pressure on the material, or too large a gap between the gate assembly and the material.

Excessive lowering of the gate assembly can damage material or lead to premature wear of the O-rings or feed belts.

If bottom piece of material does not move freely, then the gate assembly is too tight. This can lead to premature wear of the O-rings or feed belts.

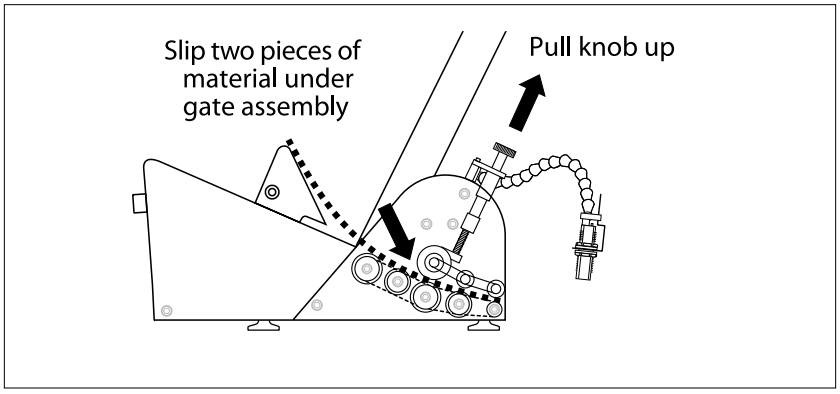
TIP

A wider gap between material and belt provides the highest tolerance for curled and bent edges.

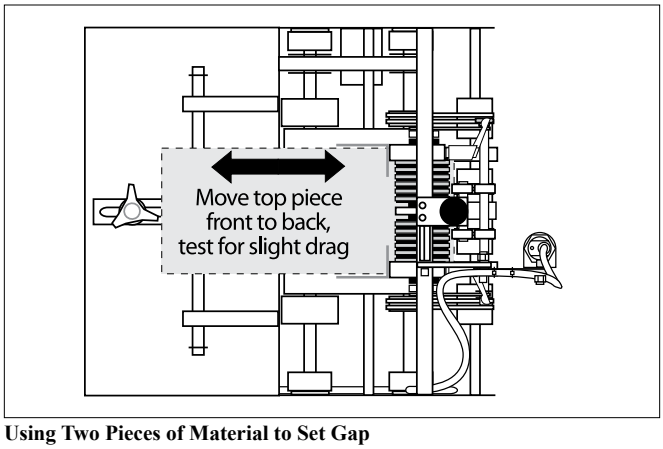
Procedure

To adjust the gate assembly for proper gap, follow these steps:

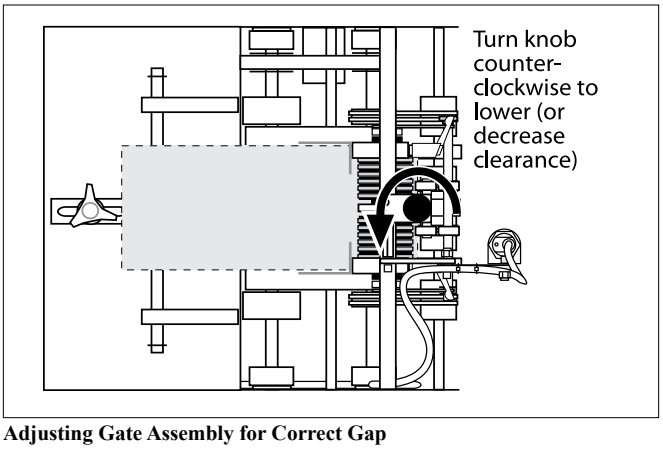
1. Slide two pieces of sample material under the gate assembly. You may have to pull up on the adjustment knob to allow the material to be inserted.
2. Test the *top* piece for clearance. Grasp with two hands and slide it front-to-back under the gate assembly. A proper adjustment allows a "slight" amount of drag on the top piece of material.
3. Test the *bottom* piece of material for clearance. It should move freely, without any resistance.
4. Adjust the knob on the gate assembly until the material has the desired drag: clockwise to increase clearance, counter-clockwise to decrease clearance.
5. Remove the top piece and turn the adjustment knob counter-clockwise 1/4 turn to lower the gate assembly. This should set the gap for the optimum 1.5 thickness of material.
6. Repeat drag tests and adjust as needed until the desired clearance is achieved.



Lifting Gate Assembly Upward to Insert Material



Using Two Pieces of Material to Set Gap



Adjusting Gate Assembly for Correct Gap

Change From Factory Set High-Tension to Low-Tension

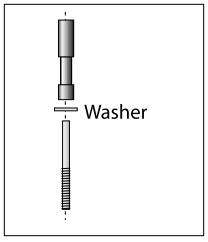
Excessive lowering of the gate assembly can damage material lead and/or lead to premature wear of the O-rings or feed belts.

IMPORTANT

When changing from a low-tension to high-tension setting, you may have to adjust the stack height downward to prevent feeding problems.

NOTE

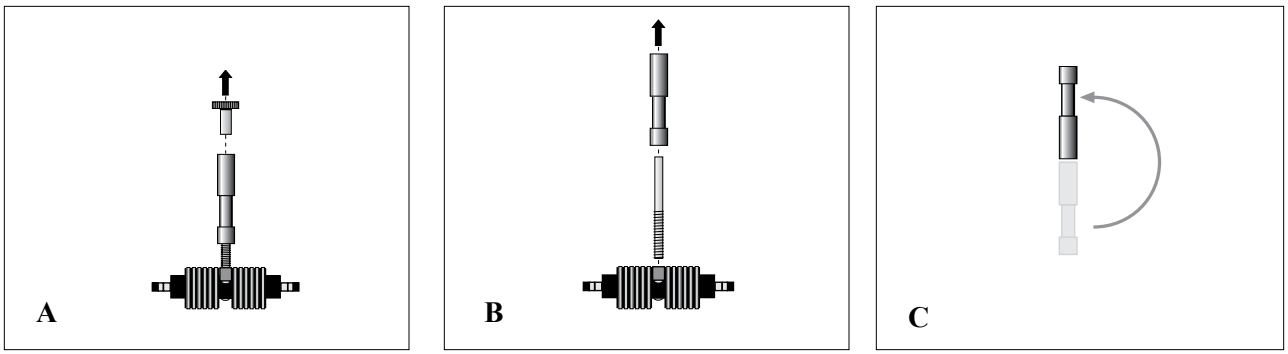
Certain types of single-sheet material may require even more tension than the cylinder reversible can provide. To increase tension even further, place a high-tension washer between the cylinder and spring.



Procedure

To change the spring from a *high* to a *low* spring tension, follow these steps:

1. Move the feeder back from the gate plate to allow working clearance. Lift the feeder off of the inserter rear deck plate to release the feeder suction cups. *You can save much re-alignment time if you mark the current position on the back deck plate before moving.*
2. Remove the gate assembly from gate bracket assembly. To do so, pull cylinder down with one hand, lift up on knob with other, and tip at slight angle to remove.
3. Remove the adjustment knob by turning counter-clockwise. Then lift the cylinder off of top of spring.
4. Turn the cylinder around so that the cylinder collar faces up. Then place the cylinder on top of the spring.
5. Replace the adjustment knob (make about 8 revolutions of the knob before reinstalling gate assembly on gate plate).
6. Return feeder to the original position marked on back deck plate.



Adjusting Gate Assembly for Low-Tension

STEP 2:
Side Guides Setting

TIP

A good "rule-of-thumb" measurement to use is about 1/16 in. (1.6 mm) between material edge and side guide (1/8 in. or 3.1 mm overall).

TIP

To help ensure the stack has even edges from top to bottom, "jog" each handful of material on a flat surface before placing in hopper.

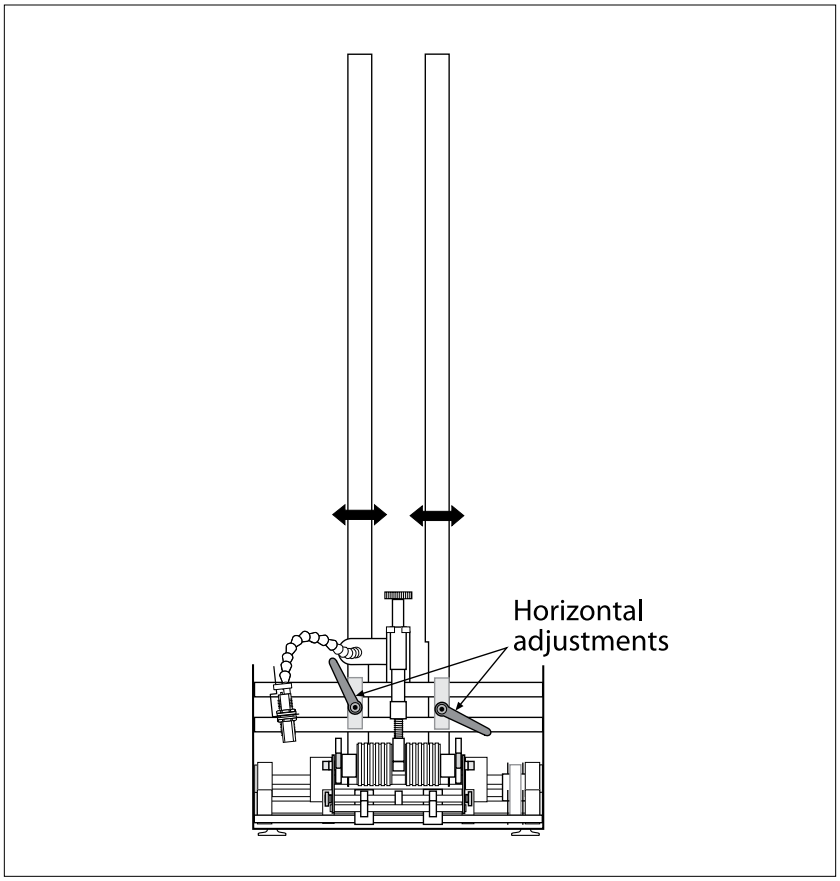
TIP

Try to establish a "sweet spot" in stack height whereby you can stack the maximum amount of material without compromising performance. A stack too high may cause double feeds; a stack too low may cause slipping.

Procedure

To adjust each side guide for proper horizontal spacing, follow these steps:

1. With a small stack of material in the hopper and centered in front of the gate, start by loosening each side guide wing adjuster (counter-clockwise). This will allow you to move each side guide as needed.
2. Grasp the lower part of each guide and slide to the recommended distance from the material: 1/16 in. (1.6 mm) from each edge, 1/8 in. (3.1 mm) overall. Tighten each wing adjuster after you establish proper position for each guide.
3. Check final clearance by moving the stack of material up and down between the side guides.



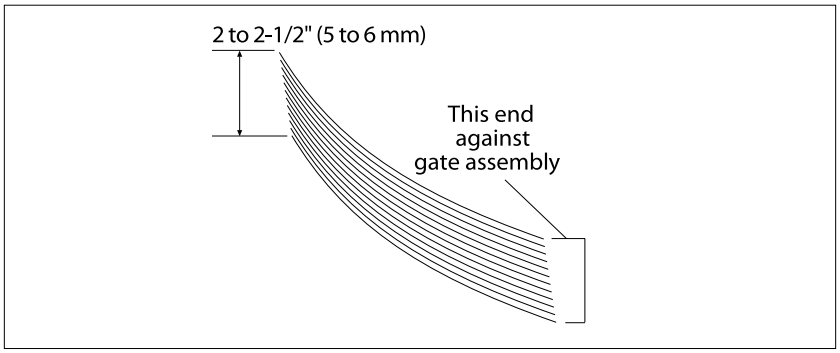
Adjusting Side Guides for Clearance

STEP 3: Back Wedge Setting

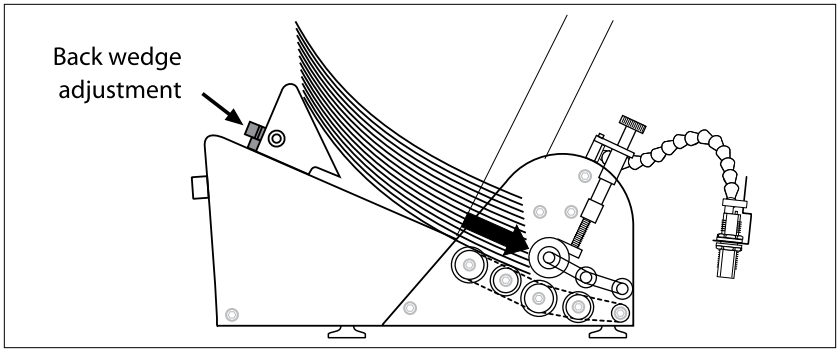
Procedure

To adjust the back wedge for initial proper positioning, follow these steps:

1. Grasp a handful of material, approximately 2 to 2-1/2 in. (5 to 6 cm) thick, and preshingle the edges with your thumb.
2. Place the preshingled material in the hopper so that the edges rest against the curvature of the gate assembly.
3. Turn the back wedge knob counter-clockwise to loosen the wedge.



Preshingling a Small Stack of Material By Hand



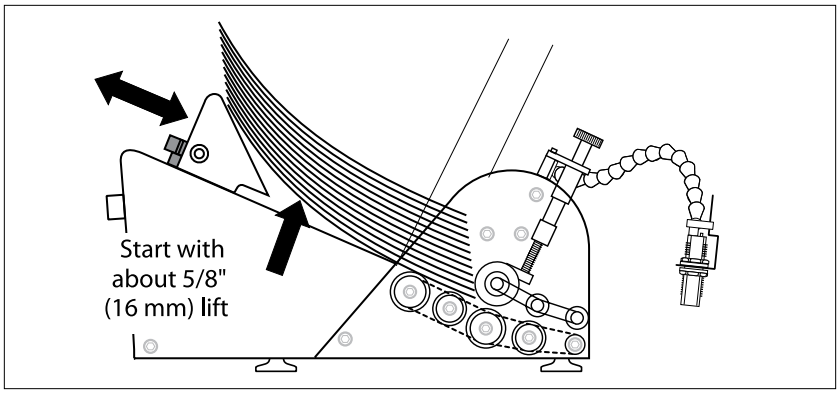
Positioning Material Prior to Loosening Back Wedge

NOTE

Moving the back wedge too far forward to the gate assembly can create a pinch point between the tip of the triangle wedges and the material. If moving the back wedge in is not effective, then an optional wedge may be required.

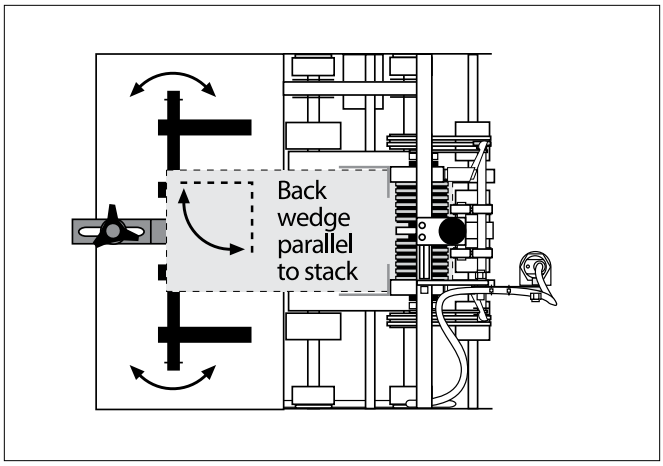
4. Move the back wedge forwards and backwards until the bottom sheet is not touching the table top. A good starting point is to measure about 5/8 in. (16 mm) from the bottom sheet to front edge of table top. Then as you test, you can "fine tune" from this point. *Refer back to the previous page for other helpful guidelines.*

STEP 3:
Back Wedge Setting (continued)

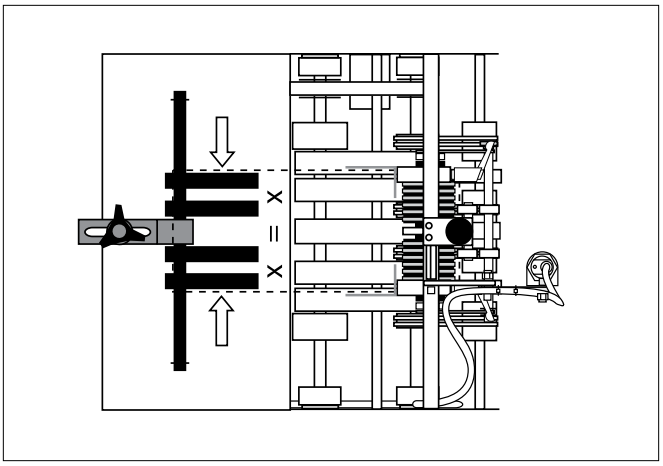


Adjusting Back Wedge for Proper Lift

5. Make sure the edge of the back wedge assembly is parallel with the edge of the material stack. Adjust as required and then tighten knob.
6. Check that individual triangle wedges are evenly spaced to provide enough support to lift the material off the table top and feed belts, without any bowing or twisting. *Refer to "Back Wedge Setting" section for guidelines on adjusting individual wedges for thinner material.*



Adjusting Back Wedge for Parallel



Evenly Adjusting Individual Wedges

STEP 4: Perform Final Photo Sensor Adjustment

NOTE

Standard photo sensor shipped from the factory is a diffuse reflective detector. No adjustment for gain is required or necessary.

Only adjust the photo sensor when the feeder power is Off. Do not attempt to adjust the photo sensor while the feeder power is On or while the feeder is running. Doing so will expose you to pinch points which can cause injury to hands or fingers.

Potential damage to feeder parts is avoided if adjustments are made when the feeder power is Off.

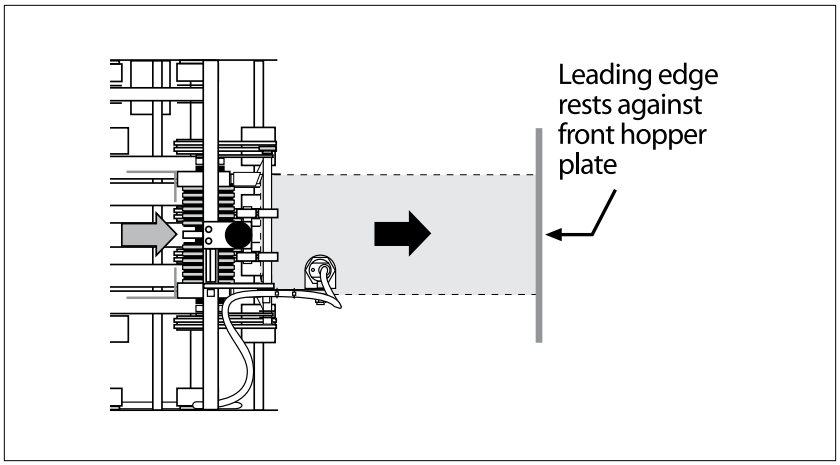
IMPORTANT

Observe the overlap between the trailing edge of the bottom sheet and leading edge of the next sheet. It should be approximately 1/4 in. (6.4 mm) to 1/2 in. (12.7 mm). If not refer back to "Aligning and Securing Feeder to Insert Station" section for more information.

Procedure

To adjust the photo sensor for proper positioning, follow these steps:

1. Prepare your adjustment by loading the hopper with approximately 2 to 2-1/2 in. (5 to 6 cm) of material. Make sure you preshingle the stack so that material rests against the curvature of the gate assembly.
2. Use your finger or thumb on the drive belt or one of the feed rollers to manually move the bottom sheet of material through the gate assembly area and under hold-down springs. Continue until material leading edge is in-line with front hopper plate, then stop.
3. Turn the feeder power On by pushing the horizontal line (—) at the **Power** On/Off rocker switch.
4. Simulate gripper jaw action by manually grasping the leading edge of the bottom sheet and pulling completely away from the gate assembly area. Once a piece is removed from the gripper jaw, the sensor sends a signal to the feeder to "stage" the next piece. The leading of the "staged" piece should be in-line with the front hopper plate.



Moving the First Sheet Into Position

STEP 4: Perform Final Photo Sensor Adjustment (continued)

5. After running several sheets through, turn the feeder power Off by pushing the circle (**O**) at the **Power** On/Off rocker switch. Adjust the photo sensor as needed to achieve the correct stopping point.
6. Retest the feeder as needed until optimum results are achieved.

IMPORTANT

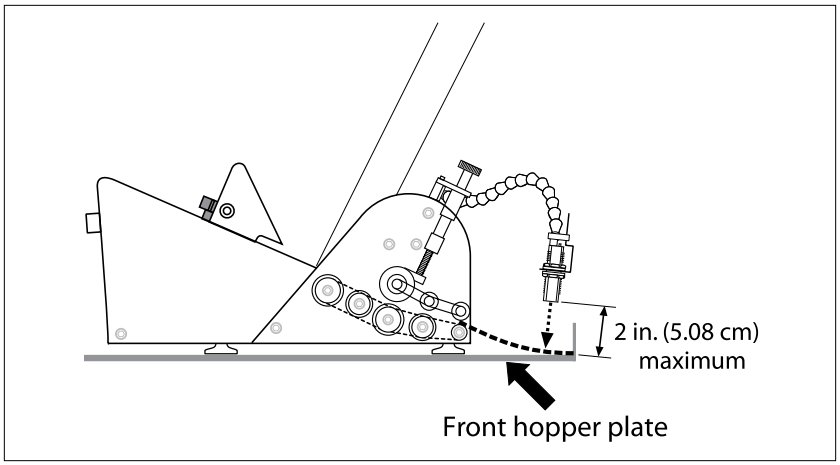
Sensing range from the lens to the paper should not exceed 2 in. (5.08 cm).

NOTE

If the photo sensor is to set too far from the surface of the material, the amber LED on the top of the photo sensor will be Off and the feeder will run. This indicates the sensor is out of range and therefore will not "see" the target.

IMPORTANT

On the feeder, such objects as shafts, guides, belts, and supports may cause false "reads" if the photo sensor is not adjusted properly for the material (or target). The resulting problem can be intermittent or continuous feeding. See "Troubleshooting" section for a solution.



Optimum Alignment of Photo Sensor

STEP 5: Perform Inserter Adjustments and Final Check

Now that you have made all the necessary adjustments for operating the feeder, it is recommended that you next make any adjustments on the inserter so that the inserter and feeder work together effectively. This includes adjusting the gripper jaw and double-detect. *For details, please refer to your inserter owner's manual.*

Prepare your test by loading the hopper with approximately 2 to 2-1/2 in. (5 to 6 cm) of material. Make sure you preshingle the stack so that material rests against the curvature of the gate assembly.

1. Power-up the feeder by pushing the horizontal line (—) at the **Power** On/Off switch.
2. Observe how individual material enters and exits the gate assembly area. Remember, a properly set gap will allow each new sheet to enter at about the center line of the cylinder while the bottom sheet is exiting the gate assembly area. Ideal overlap is 1/4 to 1/2 in. (6.4 to 12.7 mm).
3. If feeding doubles, then move the wedge in towards the gate assembly. Test again.
4. If sheets are overlapping excessively or, if the machine is feeding doubles, then reduce the gap slightly by moving the knob about 1/8 turn counter-clockwise. Test again.
5. As individual sheets of material move through the hold-down springs, check for any skewing or jamming. Also check for damage to the material.
6. If this or other feeding problems still persist (slipping, skewing, jamming), then review all the adjustment procedures in "Preparing for Operation" section.

NOTE

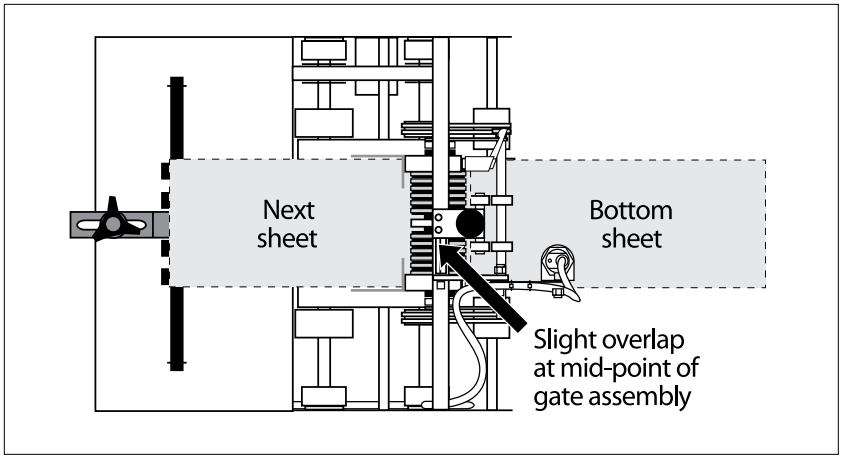
If the gate assembly is too tight, the feeder will have difficulty pulling the material through the gate assembly area. This will cause "missed" feeds.

NOTE

Moving the back wedge too far forward to the gate assembly can create a pinch point between the tip of the triangle wedges and the material. If moving the back wedge in is not effective, then an optional wedge may be required.

TIP

For certain types of materials, you may have to position the material "off-center" to prevent any skewing affect.



Optimum Overlap and Separation of Material

4 How to Operate

Sequence of Operation

Successful power-up and operation is assured if you apply the following sequence of steps.

STEP 1: Load Material in the Hopper

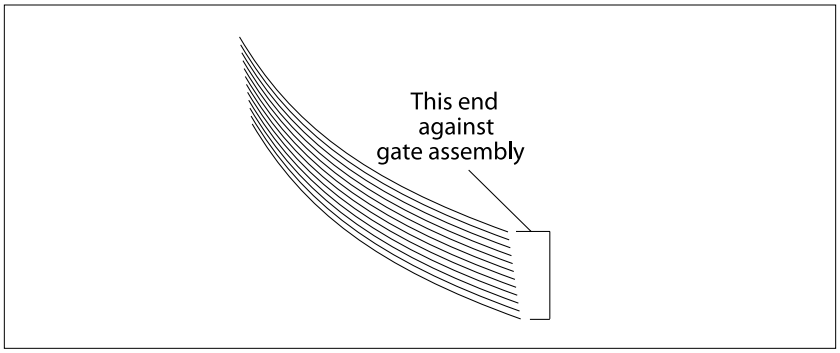
NOTE

Preshingling prevents multiple sheets from jamming under the gate assembly at start-up.

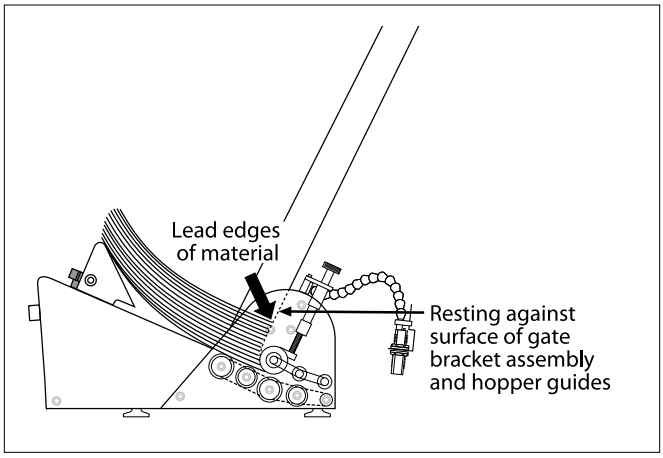
- Start by preshingling by hand a small stack of material so that it conforms to the curvature of the gate assembly. Push in gently to make sure lead edges touch the gate bracket assembly and front edges of the hopper guides.
- At the back wedge, notice how it helps lift the trailing edges of the material off the table top and feed belts. Also notice how the lifting helps to push the preshingled edges against the curvature of the gate assembly.

NOTE

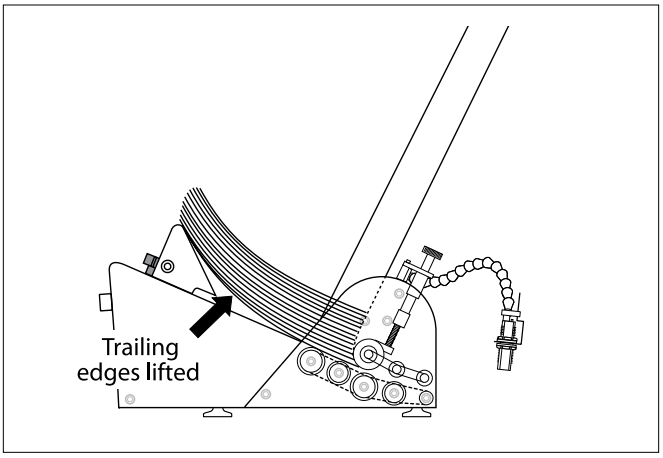
If you wish, loading of material can be accomplished from the front side of the inserter.



Preshingling of First Stack



Leading Edges Against Gate Bracket Assembly and Side Guides



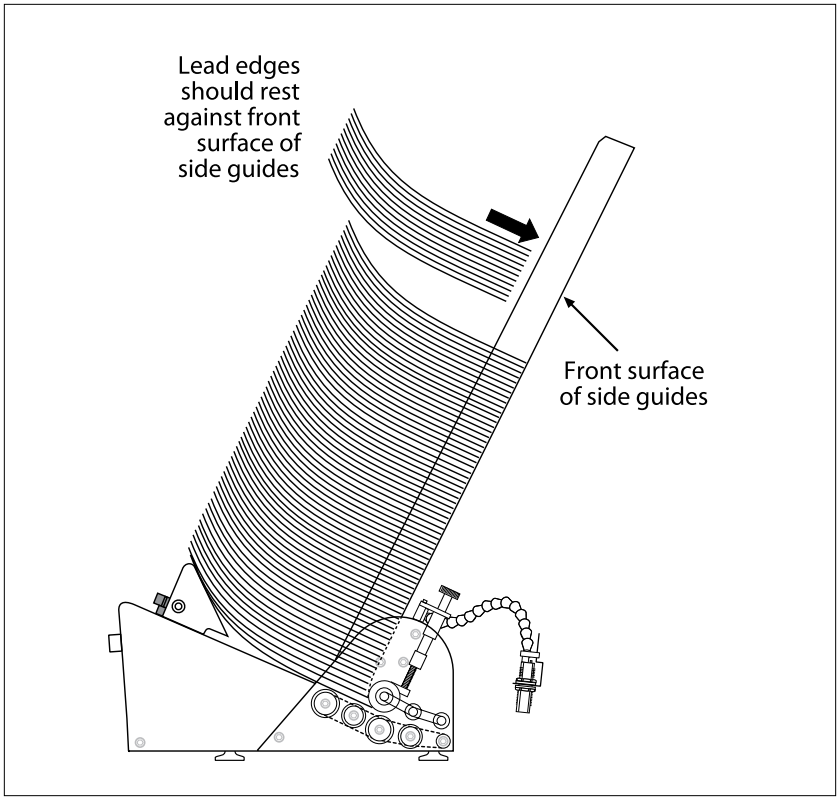
Trailing Edges Lifted by Back Wedge

STEP 2:
Determine Stack Height

- Gradually add more material to the hopper after the initial stack is formed around the gate assembly. As stack height will have a preferred minimum and a maximum, you will have to experiment to determine the effective range of height.
- Make sure the material is loaded in the hopper as straight as possible. Before adding to hopper, "jog" each hand-full of material on a flat surface to make sure lead edges are as even as possible. As you add each handful, gently push in each stack so that lead edges rest firmly against front of side guides.

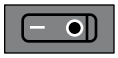
TIP

Stack height affects the downward pressure on the feed belts. Greater downward pressure can increase the chances for double feeds.



Adding More Material to Hopper

STEP 3:
Powering On Feeder



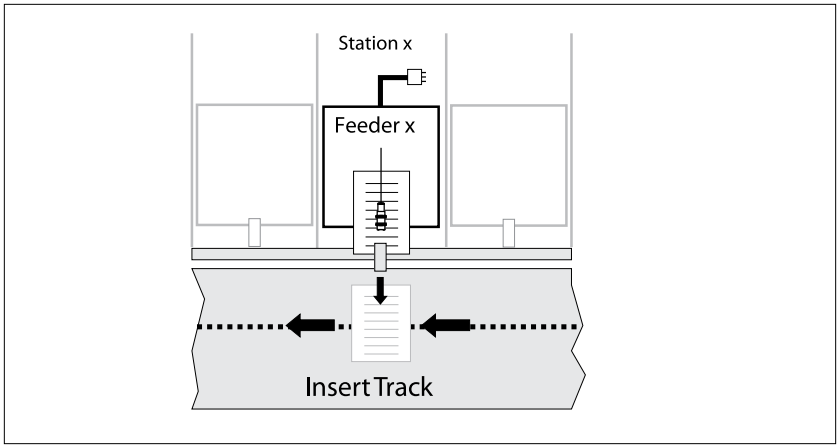
- Turn the feeder power On by pushing the horizontal line (—) at the **Power** On/Off rocker switch.
- With power On, and the speed control properly adjusted, the feeder motor should immediately move the bottom sheet of material from the stack and through the gate assembly area to "stage" the first piece. As the photo sensor "sees" the leading edge, the feed belts should stop.
- Check the leading edge of bottom sheet. It should be in-line with the front hopper plate and ready for cycling.

STEP 4:
Cycle the Inserter

- Jog the inserter to see if hold-down spring pressure is equal. Any unequal spring pressure will skew material in the jaw.
- With the feeder already fully loaded and powered On, run the inserter through several cycles.
- Check material alignment to make sure it is consistent with the grip position.

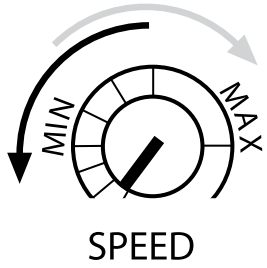
TIP

It might be helpful to know that a properly set gap will allow the leading edge of sheet to enter at about the center line of the cylinder, as the previous or bottom sheet is exiting the gate assembly area.



Cycling Inserter

STEP 5:
Set/Adjust Speed



- Set the variable speed control at the middle position. *The feeder motor will stop if you turn the speed control all the way down.*
- Load some product samples in the feeder and start the production line.
- Increase feeder speed to synchronize product feeder delivery with production line speed.

If the feeder speed is too slow, sheets will not be staged when the inserter gripper jaw approaches. This will cause the inserter to miss. If the feeder speed is too fast, sheets may overlap and jam.

STEP 6: Perform Final Check

CHECK

If a jam occurs during operation, follow these steps:

1. *Turn the feeder power Off by pushing the circle (**O**) at the **Power** On/Off rocker switch.*
2. *Remove jammed material from feeder. While doing so, try to determine the cause of the jam (see "Trouble-shooting" section).*
3. *Verify whether any adjustments are loose. If so, refer "Preparing for Operation" section for proper adjustment procedures.*
4. *Reposition photo sensor (as required).*

Make sure:

- Leading edge of bottom sheet stops at proper location.
- Proper separation is occurring at gate assembly area.
- Material is not being damaged during cycling.
- Feeder is secured to inserter and will not move during operation.

Shutdown

Should you not be using the feeder for long periods of time, follow these steps to ensure a safe and secure storage:

1. Turn the feeder power Off by pushing the circle (**O**) at the rocker **Power** On/Off rocker switch.
2. Disconnect the feeder power cord from the AC power source.
3. Cover the feeder with a cloth or plastic tarp to prevent dust and debris from accumulating.

5 Troubleshooting

This table is intended to provide you with quick solutions to the more common day-to-day problems you may encounter.

Quick-Look Troubleshooting

Problem	Cause	Solution
No AC power to feeder	1. On/Off switch in "Off" (or "**O**" position).	Check that switch pressed to "On" (or "**—**" position).
	2. Power cord loose or not plugged into outlet (or AC power source).	Check and secure power cord at AC outlet.
	3. Female end of power cable loose or not plugged into AC power inlet at rear of feeder.	Check and secure cord at AC power inlet (rear of feeder).
	4. Enclosure open or not closed properly.	Consult with a qualified technician.*
Feeding doubles	1. Gate assembly improperly adjusted (possibly more than one sheet thickness).	Review gate assembly adjustment in "Preparing for Operation" section.
	2. Back wedge improperly adjusted.	Review back wedge adjustment in "Preparing for Operation" section.
	3. Worn O-rings (or if applicable, angled edge).	Rotate O-rings. Or if applicable, replace angled edge (see "Inspection and Care" section for procedure). If wear is excessive, consult with a qualified technician.*
	4. Material interlocking.	Check material and source.
	5. Static buildup.	Check material and source.
Continuous feeding	1. Possible overlapping.	See "Feeding Doubles" above.
	2. Photo sensor not adjusted properly; may be "seeing" background objects.	Review photo sensor adjustment in "Preparing for Operation" section.
Feed belts are operating, but material not feeding	1. Material stack weight is too low when stack height is down, resulting in reduction of down pressure.	Review loading the material in "How To Operate" section.
	2. Binding in side guides.	Adjust the side guides further apart to allow freedom of movement between sheets.
	3. Slippery feed belts due to buildup of material.	Consult with a qualified technician.*
	4. Sheet adhesion or interlocking between the bottom and next sheet.	Review loading the material in "How To Operate" section, or review back wedge adjustment in "Preparing for Operation" section.
	5. Gate assembly may be down too tight.	Review gate assembly adjustment in "Preparing for Operation" section.
	6. Too much weight in hopper.	Remove material from stack. Test again.

Quick-Look Troubleshooting (continued)

Problem	Cause	Solution
Feed belt(s) not tracking on rollers	1. Excessive weight in hopper.	Reduce weight. Test again.
	2. Excessive down pressure on gate assembly.	Rotate clockwise 1/8 turn to increase gap and manually test. Also, review gate assembly adjustment in "Preparing for Operation" section.
	3. Off-centered product from center point of machine.	Review side guides setting in "Preparing for Operation" section.
	4. Stack is bearing down on edge of belt.	Move stack away from belt, even if this causes stack to be aligned off center from center line of feeder.
	5 Belt wear.	Review gate assembly adjustment and back wedge adjustment in "Preparing for Operation" section. Also, see "Inspection and Care" section. If wear is excessive, consult with a qualified technician.*
	6. Rollers out of adjustment.	Consult with a qualified technician.*
Jamming occurs during operation	1. Improper adjustment of any of the following areas: • gate assembly • back wedge • hold-down assembly	1. Turn the **Power** switch to "Off" by pushing the circle (**O**). 2. Remove jammed material from feeder. While doing so, try to determine the cause of the jam. 3. Verify each adjustment by reviewing "Preparing for Operation" section.
Material too far from gripper jaw	1. Photo sensor "staging" leading edge of material too short of hopper plate. 2. Gripper jaw adjusted too far from edge of hopper plate.	Review photo sensor adjustment in "Preparing for Operation" section. Adjust gripper jaw as required per inserter owner's manual.
Material too deep in gripper jaw	1. Photo sensor "staging" leading edge of material too far past hopper plate. 2. Gripper jaw adjusted too close to edge of hopper plate.	Review photo sensor adjustment in "Preparing for Operation" section. Adjust gripper jaw as required per inserter owner's manual.
Material skewing	1. Back wedge not aligned properly. 2. Hold-down spring tension either too loose or too tight.	Review back wedge adjustment in "Preparing for Operation" section. Review hold-down spring installation in "Installing the Machine" section.

*For replacement procedures or for additional troubleshooting information not covered above, refer to the ***Technical Information Manual*.

6 Inspection and Care

When performing initial installation, always make sure you turn Off the main power switch and disconnect all equipment from the electrical power source. Failure to do so can expose you to a potential start-up, and therefore moving parts which can cause serious injury.

Do not attempt feeder installation while the inserter is running. Failure to do so can expose you to moving parts which can cause serious injury.

Avoid turning on the feeder or making initial adjustments until all parts are secured. Failure to do so can cause damage to equipment.

Please read this Section to learn how to:

- Visually inspect your machine to detect part problems which may require adjustment or replacement.
- Periodically care for your machine to prevent any operational problems.

Visual Inspection

Check for Feed Belt Wear

Check for visual signs of:

- Walking. Replace as required.
- Cracking. Replace as required.
- Thinning. Replace as required.

Check for Drive Belt Wear

Check for visual signs of:

- Fraying. Replace as required.
- Missing teeth. Replace as required.
- Cracking. Replace as required.
- Paper residue buildup. Clean from belts, especially in grooves.

Visual Inspection (continued)

Ensure Proper Feed Belt Tracking

Check for visual signs of:

- Stretching.
- Improper roller adjustment.

Ensure Proper Drive Belt Tracking

Check for visual signs of:

- Misaligned timing pulleys.

Check for Gate Assembly Wear

Check for visual signs of wear:

- Standard O-Ring: Flat areas along the O-rings.
- Bar Gate: Angled wedge begins to flatten excessively.

See “Preventive Care” to follow.

Standard O-Ring Gate: Adjust Worn O-Rings

To adjust worn O-rings on standard O-ring gate:

1. Turn Off feeder and remove power cord from outlet.
2. Move the feeder back from the gate plate to allow working clearance. To do so, lift the feeder off of the rear deck plate to release the feeder suction cups. *You can save much re-alignment time if you mark the current position on the back deck plate before moving.*
3. Remove gate assembly from gate bracket assembly.
4. Insert a screwdriver in slot on top of gate assembly and rotate screwdriver clockwise or counter-clockwise 360° so as to move worn area of O-ring about 1/8 to 1/4 in. (3 to 6 mm).
5. Remove screwdriver and repeat for each ring as necessary.
6. Reinstall gate assembly and restore power.
7. Return feeder to original position marked on rear deck plate. Press down on the feeder top plate to secure the feeder suction cups to the inserter rear deck plate. Restore power.

Visual Inspection (continued)

Replace Worn (Orange) Angled Wedge

To replace a worn angled wedge:

1. Turn Off feeder and remove power cord from outlet.
2. Move the feeder back from the gate plate to allow working clearance. To do so, lift the feeder off of the rear deck plate to release the feeder suction cups. *You can save much re-alignment time if you mark the current position on the back deck plate before moving.*
3. Remove gate assembly from gate bracket assembly.
4. Remove plate (two screws).
5. Use a pliers to grip and remove orange angled wedge.
6. Install new wedge by inserting one end and then pushing in until centered. *Do not grip new wedge with pliers as this may cause damage to the edge.*
7. Reinstall plate (two screws).
8. Reinstall gate assembly.
9. Return feeder to original position marked on rear deck plate. Press down on the feeder top plate to secure the feeder suction cups to the inserter rear deck plate. Restore power.

Preventive Care

Use only isopropyl alcohol (98% concentration). Other solvents can cause belts to wear prematurely, and even cause total breakdown of material.

Cleaning schedule for various materials:
• *Typical: every month*
• *Dusty: after every shift*
• *High ink or varnish: 1 time per shift*

Clean Feed Belts

To clean feed belts:

1. Turn Off feeder and remove power cord from outlet.
2. Apply a small amount of isopropyl alcohol to a soft cloth.
3. Use your thumb or finger on the drive belt or one of the feed rollers to manually move feed belts. Start with one belt at a time (there are five total).
4. Carefully press the moistened area of the cloth to the belt. As you move the belt, use moderate pressure to wipe across the belt, making sure to wipe in direction of grooves also. After several rotations of the belt, repeat for each belt.
5. Taking a dry portion of the cloth, go back to the first feed belt cleaned and use moderate pressure against the belt for several revolutions to ensure the belt is dried. Repeat for each belt.
6. Restore power.

Preventive Care (continued)

Clean Gate Assembly

Use only isopropyl alcohol (98% concentration). Do not use any other types of solvents. They can cause premature wear of the belts, or even total breakdown of the material.

To clean gate assemblies:

1. Turn Off feeder and remove power cord from outlet.
2. Move the feeder back from the gate plate to allow working clearance. To do so, lift the feeder off of the rear deck plate to release the feeder suction cups. *You can save much re-alignment time if you mark the current position on the back deck plate before moving.*
3. Remove gate assembly from gate bracket assembly.
4. Apply a small amount of isopropyl alcohol to a soft cloth.
5. Wipe across O-rings or angled wedge if applicable, first in one direction then the other.
6. Taking a dry portion of the cloth, go back and wipe all surfaces to ensure they are dried.
7. Return feeder to original position marked on rear deck plate. Press down on the feeder top plate to secure the feeder suction cups to the inserter rear deck plate. Restore power.

Cleaning schedule for various materials:

- *Typical: every month*
- *Dusty: after every shift*
- *High ink or varnish: 1 time per shift*

Clean Photo Sensor

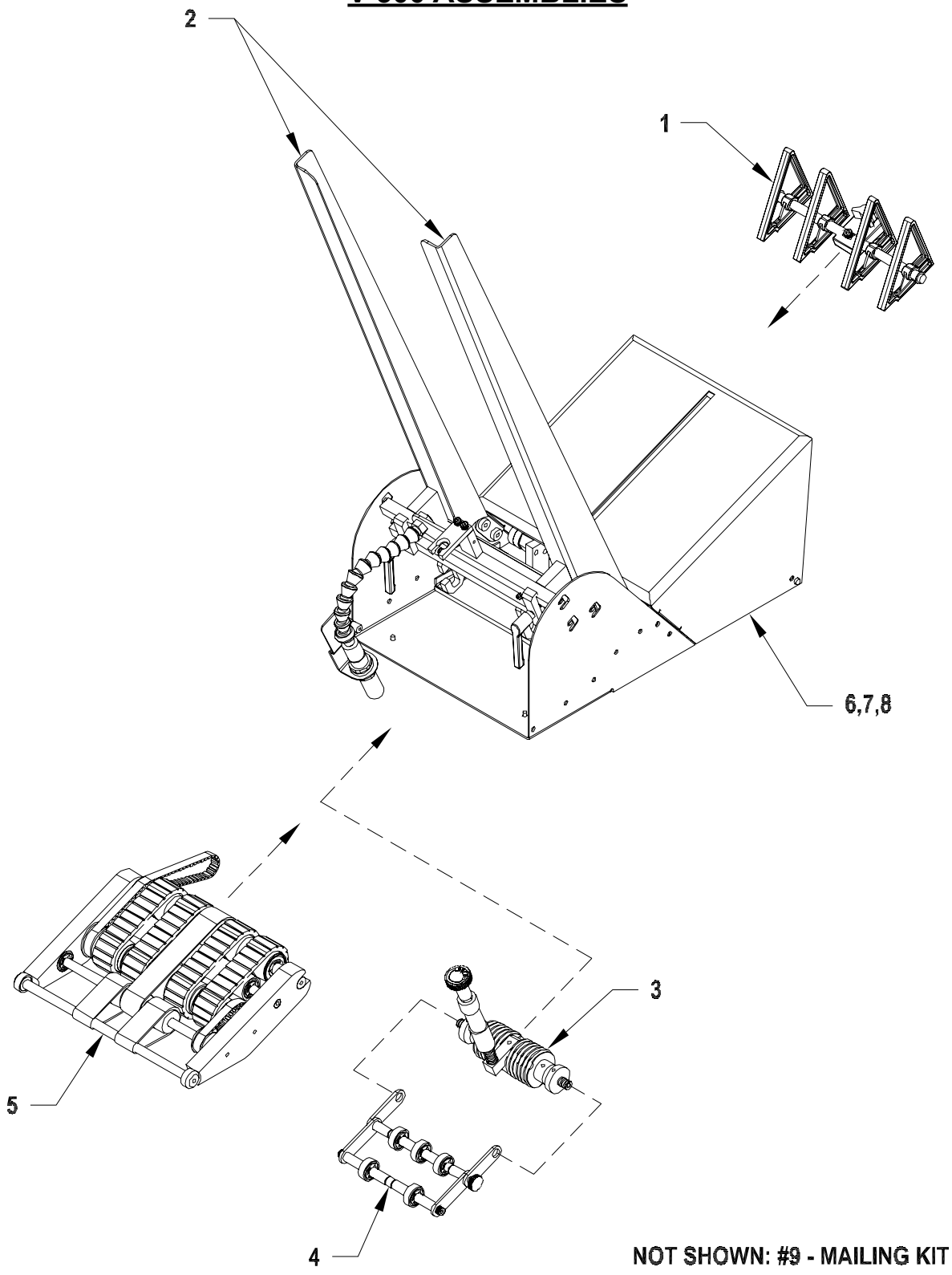
To clean the photo sensor lens:

1. Turn Off feeder and remove power cord from outlet.
2. Using a soft, dry cloth, wipe across the face of the photo sensor lens.
3. Recheck the adjustments to make sure it is still in alignment to the target.
4. Restore power.

Do not use any solvents or cleaning agents when cleaning the photo sensor lens. This can result in surface damage and eventual faulty performance.

7 Mechanical Components

V-500 ASSEMBLIES

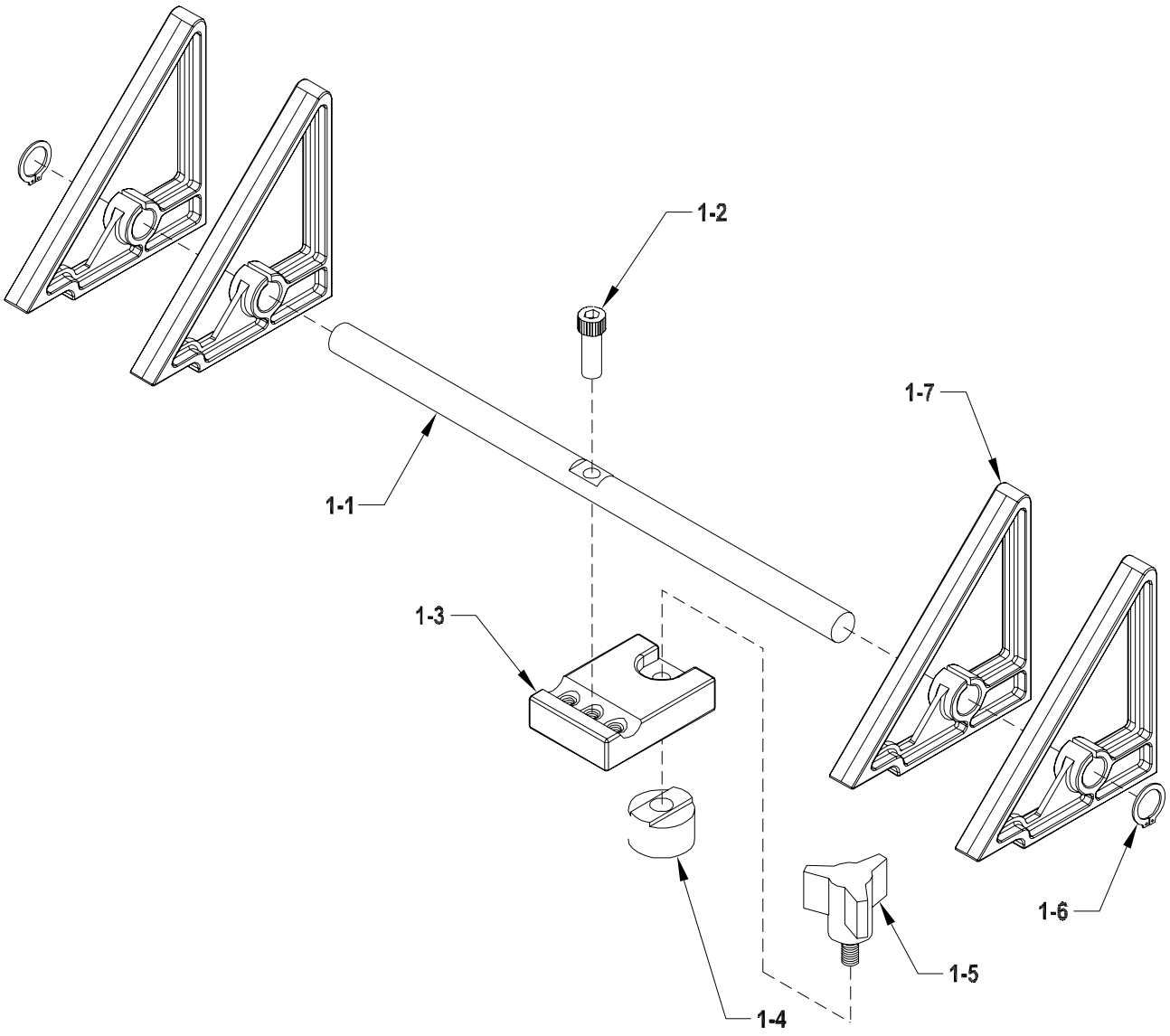


NOT SHOWN: #9 - MAILING KIT

V-500 ASSEMBLIES

Diagram Number	Description	Part Number
1	TRIANGLE WEDGE ASSEMBLY	#63311018
2	GATE PLATE ASSEMBLY	#84611001
3	STANDARD O-RING GATE W/HORIZON ADJUST ASSEMBLY	#13511872
4	HOLD DOWN ASSEMBLY	#84611013
5	CARRIAGE ASSEMBLY	#84611161
6	EXTERIOR FEATURES	
7	INTERIOR FEATURES	
8	CLUTCH/BRAKE COMPONENTS	
9	MAILING KIT ASSEMBLY #84611004	

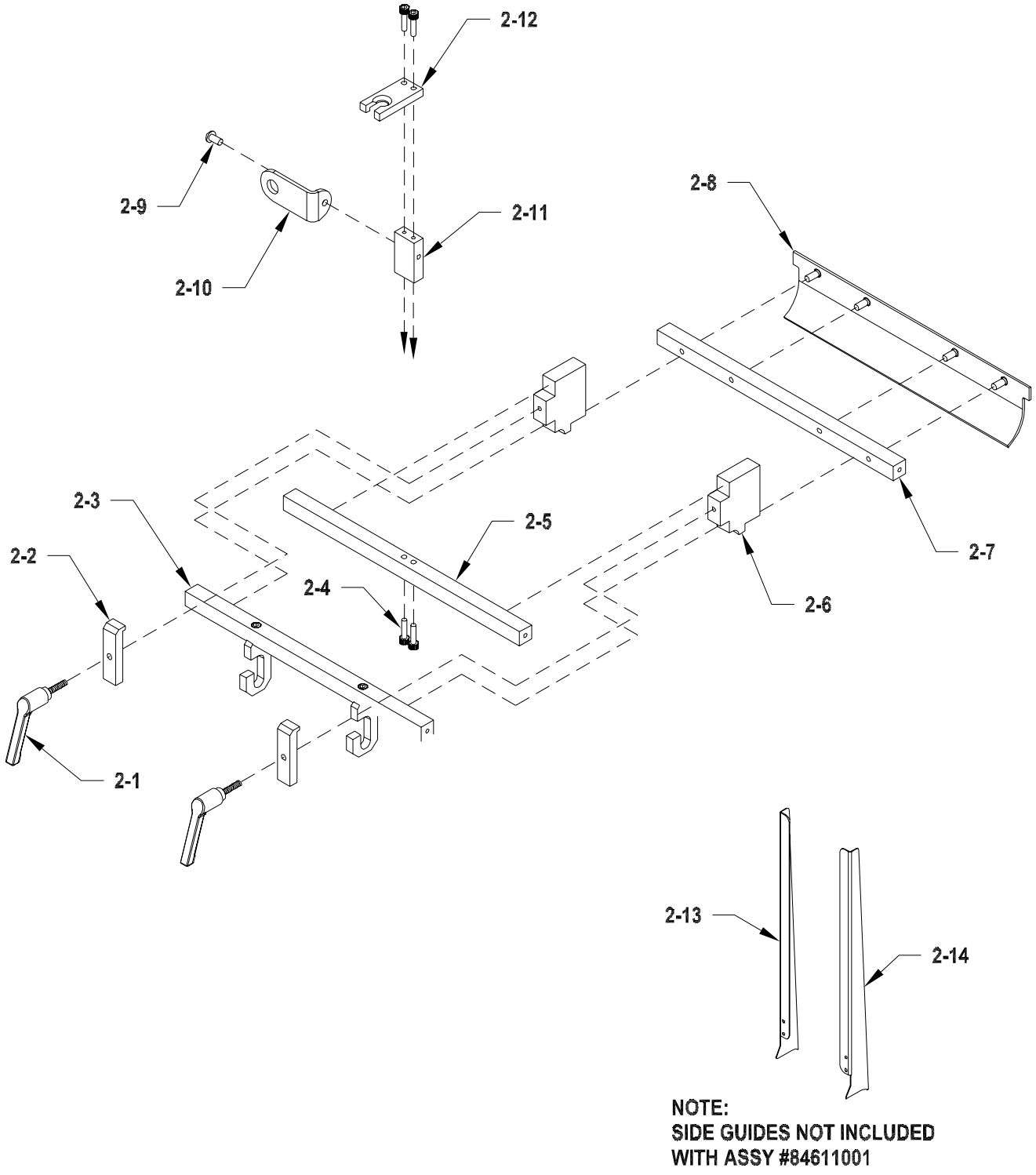
1: TRIANGLE WEDGE ASSEMBLY #63311018



1: TRIANGLE WEDGE ASSEMBLY #63311018

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
1-1	1	Wedge Guide Shaft	44633018
1-2	1	SHCS 10-32 X 5/8” LG	00002320
1-3	1	Wedge Block	44633014
1-4	1	T-Nut Round	44633016
1-5	1	Knob 3 Lobe 10-32 X 5/8” LG	44633033
1-6	2	Ring Grip 3/8 Waldes	00001110
1-7	4	Wedge Material Support	43560212

2: GATE PLATE ASSEMBLY #84611001

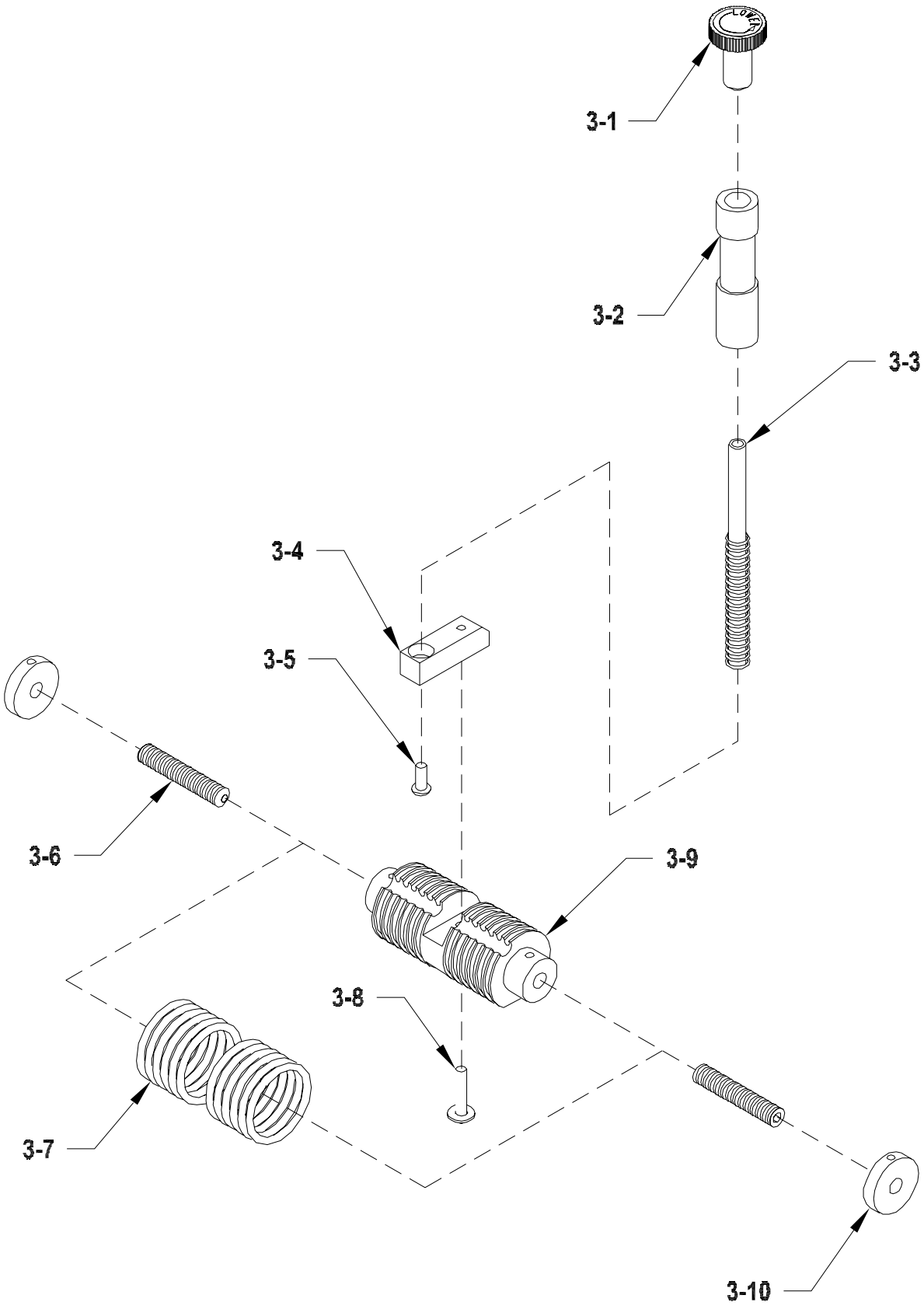


2: GATE PLATE ASSEMBLY #84611001

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
2-1	2	Lever Adjustment 10-32 X .75	43555098
2-2	2	Clamp Adjustment Side Guide Front	44846009
2-3	1	Bar Support Gate Bottom	44846006
	2	Gate J Hook	44841011
	2	SHCS 8-32 X 5/8” LG	00002215
2-4	4	SHCS 8-32 X 5/8 “LG	00002215
2-5	1	Bar Support Gate Top	44846005
2-6	2	Clamp Adjustment Side Guide Rear	44846010
	4	Screw Flat Head 10-32 X 1/2” LG	00002830
2-7	1	Bar Pre-Gate	44846007
2-8	1	Pre-Gate	44846016
	4	Screw Flat Head 10-32 X 1/2” LG	00002830
2-9	1	BHCS 10-32 X 3/8” LG	00002305
2-10	1	Bracket Sensor Mounting	44846051
2-11	1	Block Mount Reference	44846015
2-12	1	Adjustment Reference Block	44841019
***2-13**	1	Side Guide Right 11.524	44846013
***2-14**	1	Side Guide Left 11.524	44846014

* **= Not included with this assembly**

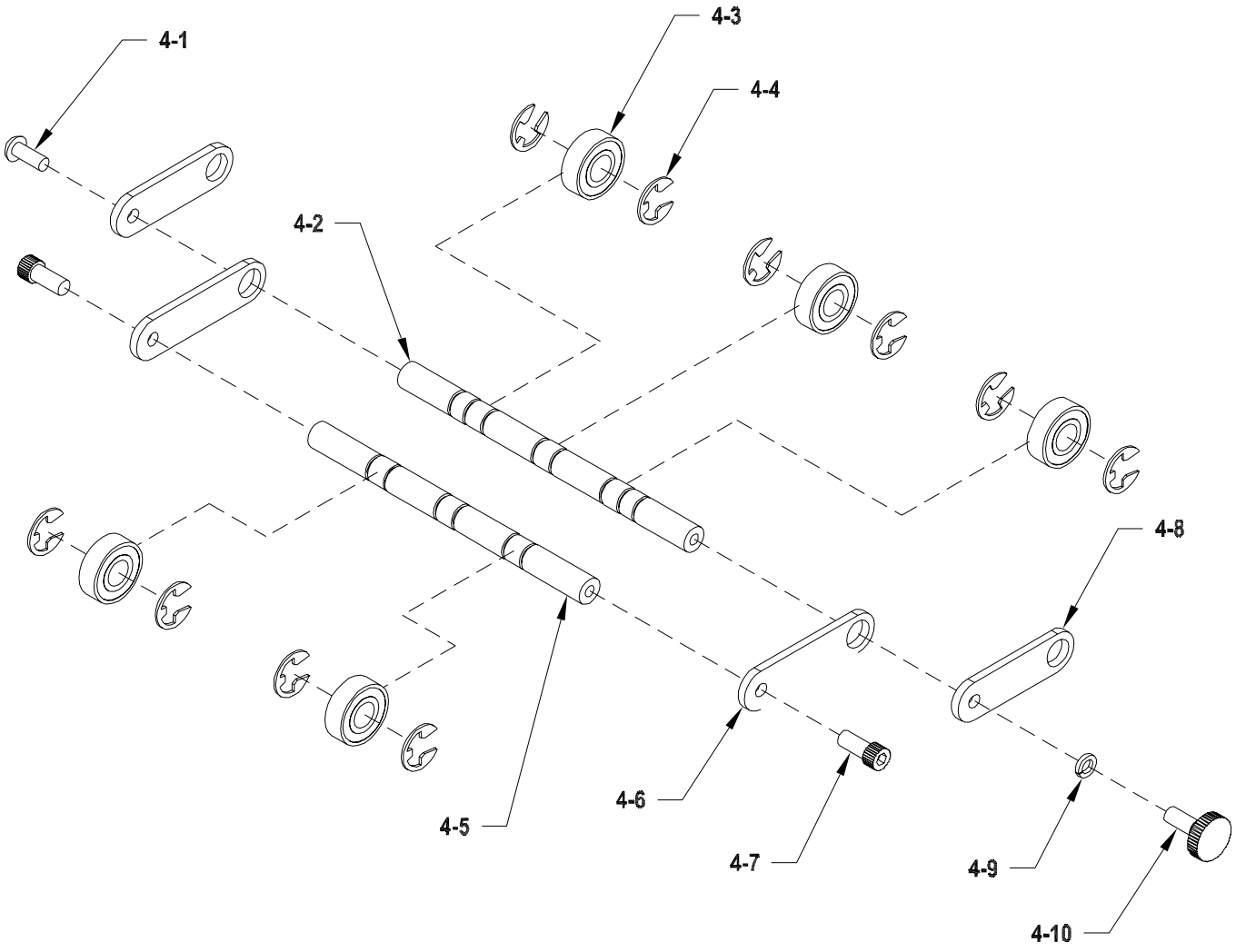
3: STANDARD O RING GATE W/HORIZON ADJUST
ASSEMBLY #13511872



3: STANDARD O RING GATE W/HORIZON ADJUST ASSEMBLY #13511872

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
3-1	1	Adj Knob Assembly for Gate	23511037
3-2	1	Cylinder Gate Spring	23500019
3-3	1	Shaft Gate Lift	23560084
	1	Spring Gate Compression	23500083
3-4	1	Mount Gate Lift Shaft	15000001
3-5	1	BHCS 10-32 X 1/2” LG	00002334
3-6	2	Screw Adjustment	44872005
3-7	12	O Ring Gate Cylinder	23500089
3-8	1	BHCS 10-32 X 1” LG	00002340
	1	Washer Flat #10	00002607
3-9	1	Gate Cylinder (Not Sold Separately)	51101001
	2	SHSS 10-32 X 1/4” LG Cup Pt	00002216
3-10	2	Roller	44872003
	2	SHSS 10-32 X 3/8” LG Nylon Tip	44872007

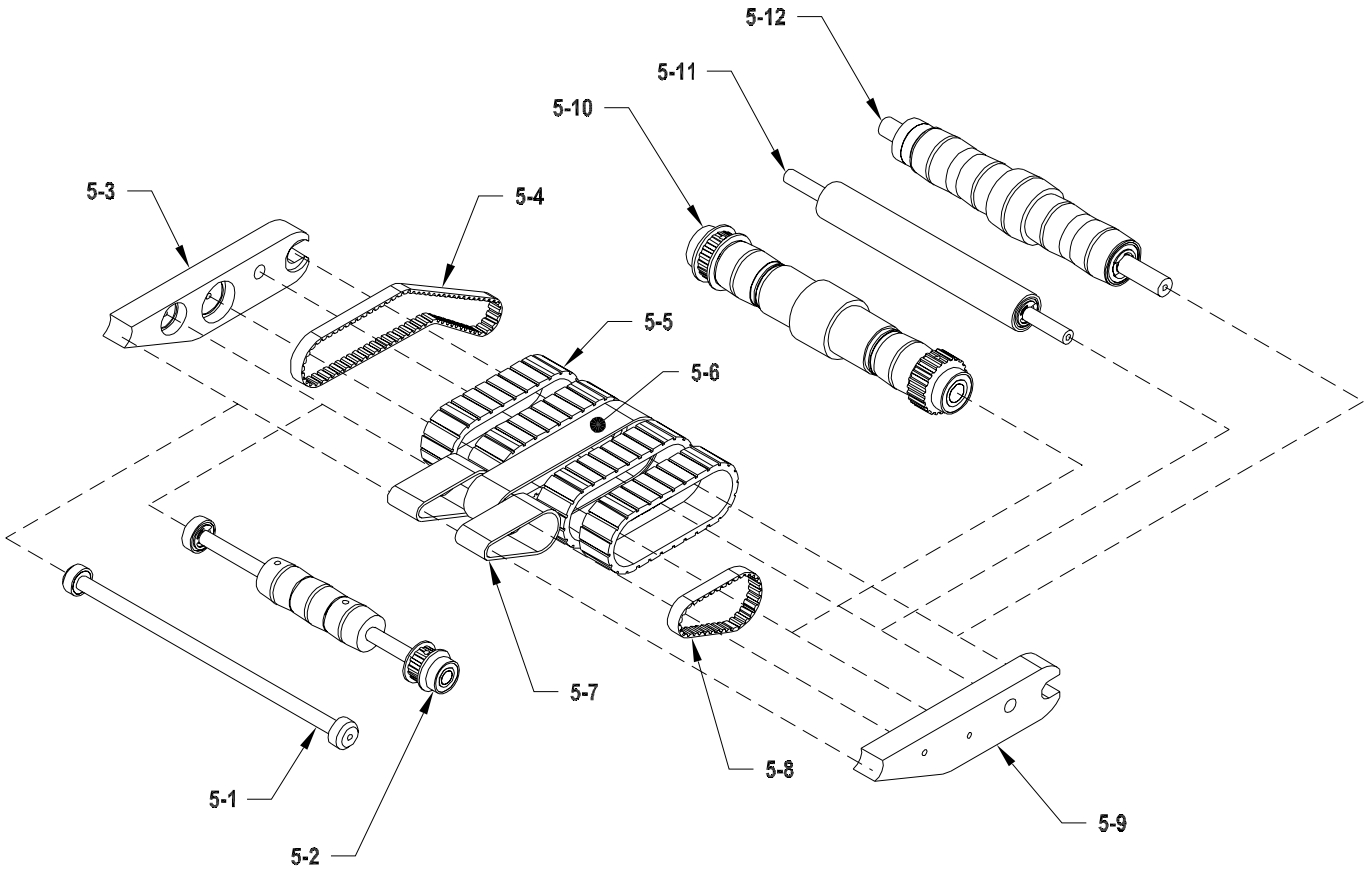
4: HOLD DOWN ASSEMBLY #84611013



4: HOLD DOWN ASSEMBLY #84611013

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
4-1	1	BHCS 10-32 X 1/2” LG	00002334
4-2	1	Shaft Discharge	51101003
4-3	5	Bearing Ball R6	23500095
4-4	10	E Clip, 3/8 Shaft	00001150
4-5	1	Shaft Discharge	51101002
4-6	2	Bracket Discharge Lower	44846047
4-7	2	SHCS 10-32 Nylock	44350017
4-8	2	Bracket Discharge	44846046
4-9	1	Washer Lock #10	00002608
4-10	1	Knob, Black 5/8 Dia #10	23500091
	1	SHCS 10-32 X 1/2” LG	00002315

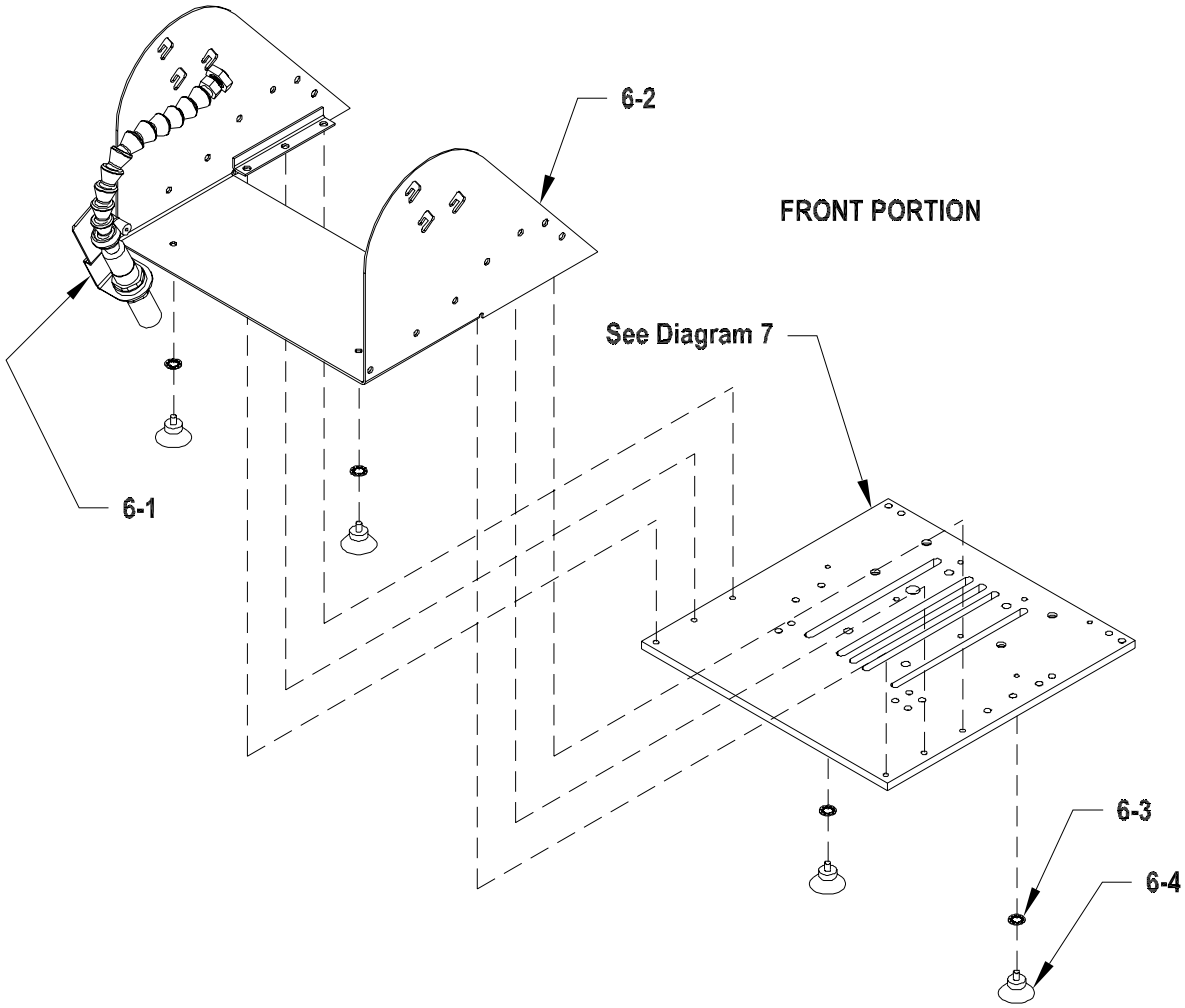
5: CARRIAGE ASSEMBLY #84611161



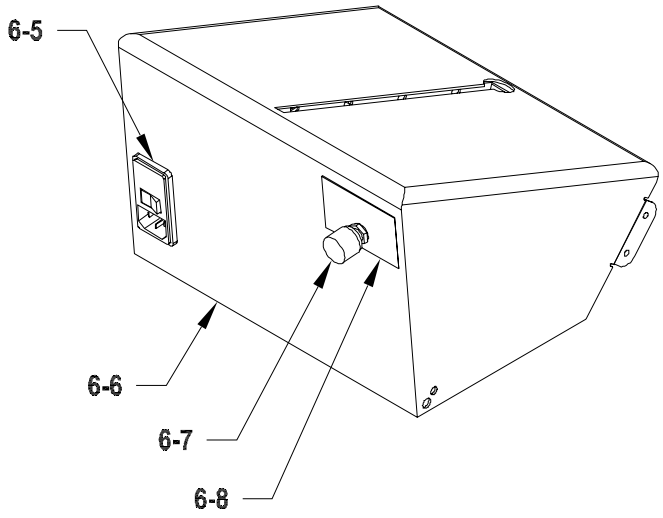
5: CARRIAGE ASSEMBLY #84611161

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
5-1	1	Shaft Discharge Front	44846030
	2	Cup, Bearing R4	44846050
	2	Bearing Ball R4	44582021
5-2	1	Shaft Discharge Rear	44846029
	1	Crown Roller	44846021
	2	Crown Roller	44846022
	1	Pulley, Timing 14XL037 .375 KDFA	44582015
	4	Bearing Ball R6	23500095
	4	E Clip, 3/8 Shaft	00001150
	2	Screw Socket Set 10-32 X 1/8” LG	00003352
	4	Screw Socket Set 10-32 X 1/4” LG	00002216
	1	Key Woodruff 1/8 X 3/8	00003351
5-3	1	Holder Carriage Right	44846025
5-4	1	Belt, Timing 160XL037	33560097
5-5	4	Belt, Feed Tan Gum 24G Liner 1W X 9L	23500162
5-6	1	Discharge Belt Clear 1W	44846035
5-7	2	Discharge Belt Clear 1W	44846036
5-8	1	Belt, Timing 70XL037	44846054
5-9	1	Holder Carriage Left	44846026
5-10	1	Drive Tube	44846019
	1	Pulley, Timing 20XL037 .500 KDFA	23500097
	1	Pulley, Timing 24XL037 .500KA	43560098
	2	Bearing Ball R8	23500094
	2	E Clip, 1/2 Shaft	00001155
	3	Screw Socket Set 10-32 X 5/16” LG	00002217
	2	Key Woodruff 1/8 X 3/8	00003351
	1	Screw Socket Set 10-32 X 1/4” LG	00002216
5-11	1	Shaft Discharge Feed Roller	44846023
	1	Belt Support Tube	44846018
	2	Bearing Ball R6	23500095
	2	E Clip, 3/8 Shaft	00001150
5-12	1	Idler Shaft	44846024
	1	Driven Tube	44846017
	4	Bearing Ball R8	23500094
	3	E Clip, 1/2 Shaft	00001155

6: EXTERIOR FEATURES



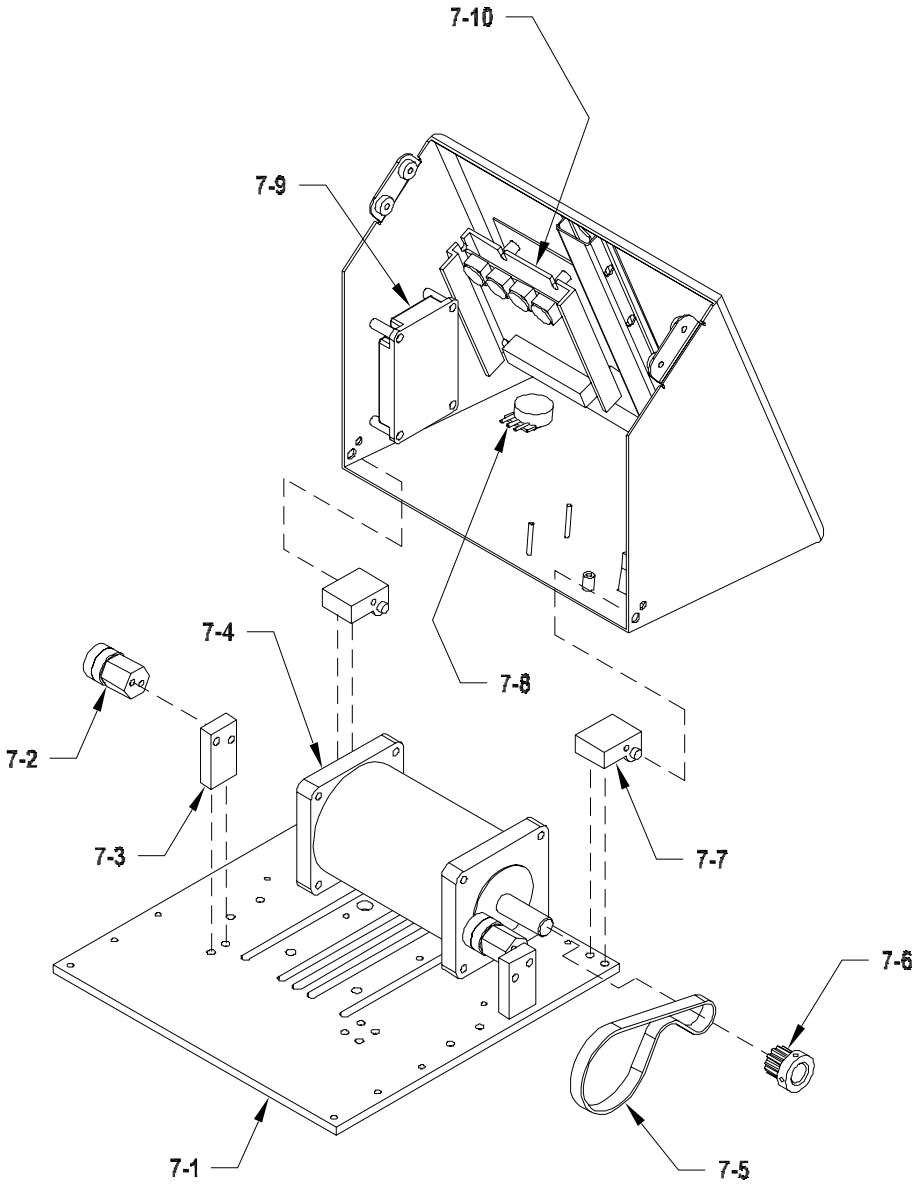
REAR PORTION

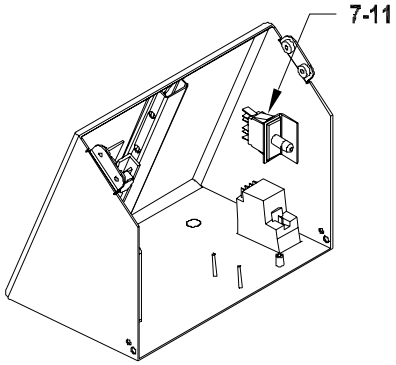


6: EXTERIOR FEATURES

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
6-1	1	Sheet Sensor Assembly	84611002
6-2	1	Shell Front V500	44846012
6-3	4	Washer Lock 1/4 Internal Star Tooth	00003341
6-4	4	Foot Suction Cup	44846058
6-5	1	Power Module Assembly V500	84611009
6-6	1	Shell Back V500	44846008
6-7	1	Knob Straight Knurl Black	44675030
6-8	1	V500 Speed Graphic	44846055

7: INTERIOR FEATURES

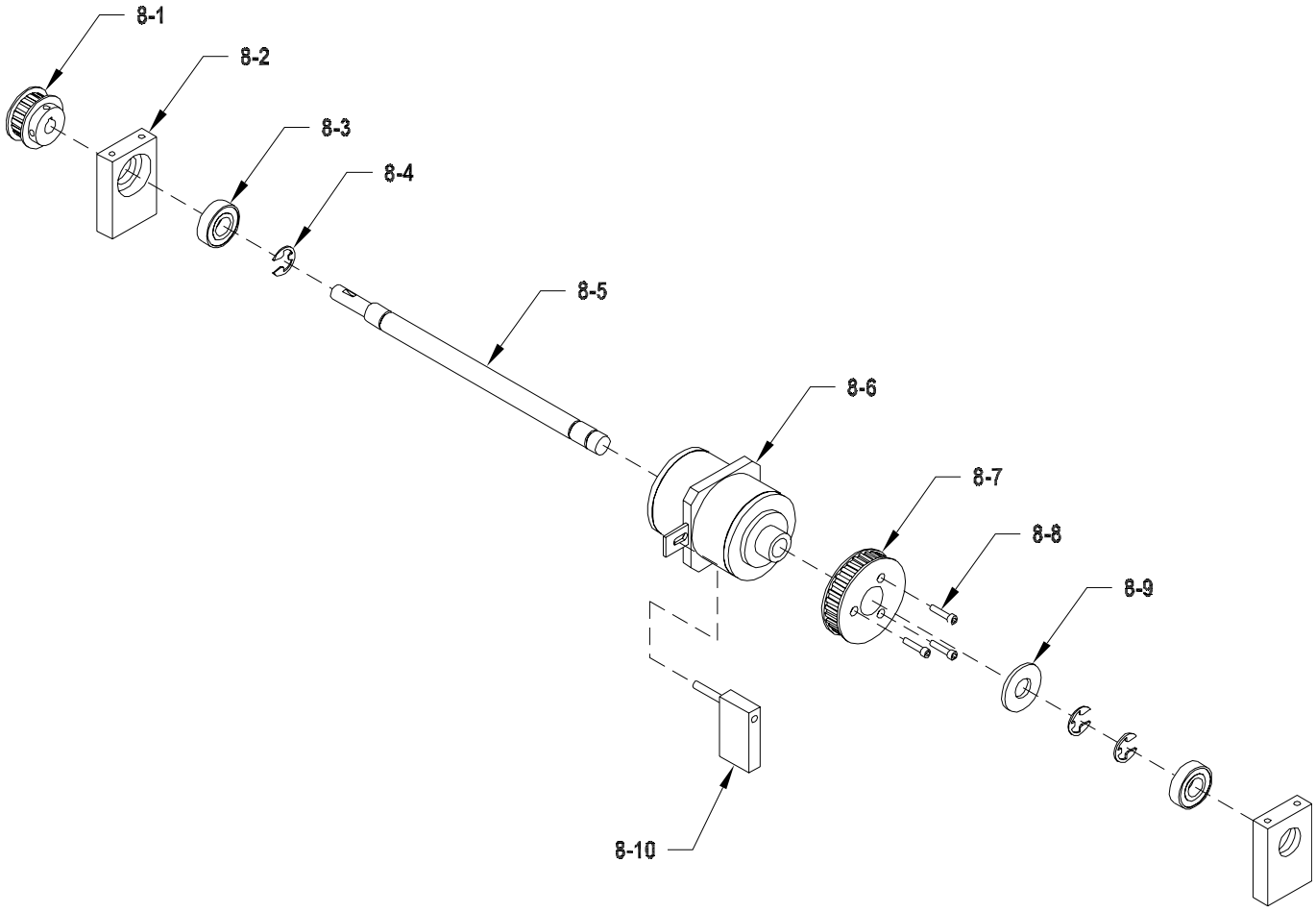




7: INTERIOR FEATURES

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
7-1	1	Plate Base V500	44846002
7-2	2	Belt Tensioner Assembly	84111007
7-3	2	Bracket Belt Tensioner	44846056
7-4	1	Motor Assembly V500	84611006
7-5	1	Belt Timing 110XL037	435BG107
7-6	1 2	Pulley, Timing 12XL037 .500HA Screw Socket Set 10-32 X 1/4” LG	43555302 00002216
7-7	2	Pivot Block	44846061
7-8	1	Speed Pot Assembly V500	84611007
7-9	1	Clutch Controller Assembly 90VDC (Contains Relay… Not Shown)	84611008
7-10	1	SCR Board w/36 Inch Pot Leads	44642025
7-11	1	Interlock Switch Assembly V500	84611012
NS	1	Clamp Cable	23500078
NS	19	Sheathing #3 HP Black	44649108
NS	3	Tie, White Cable	53500030
NS	2	Mount, Adhesive 2 Way Cable Tie	53500031
NS	2	Terminal Fork	53500047
NS	1	Terminal Disc Female .020 22-18 AWG	53500254
NS	1	115V Configured Assembly	53500002
NS	1	Ground Wire Assembly V500	84611011

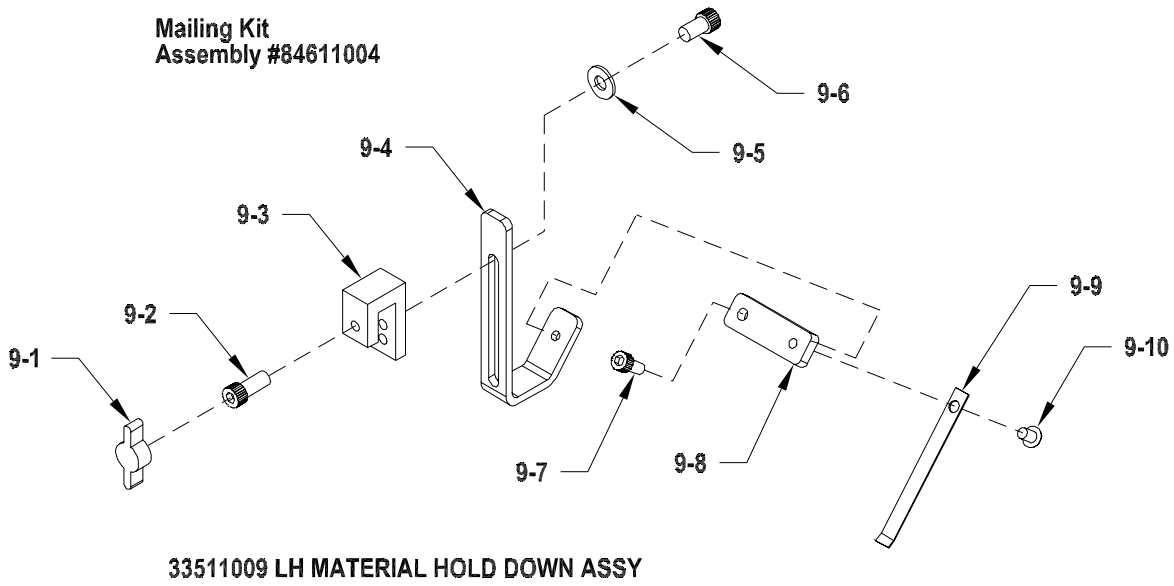
8: CLUTCH/BRAKE COMPONENTS



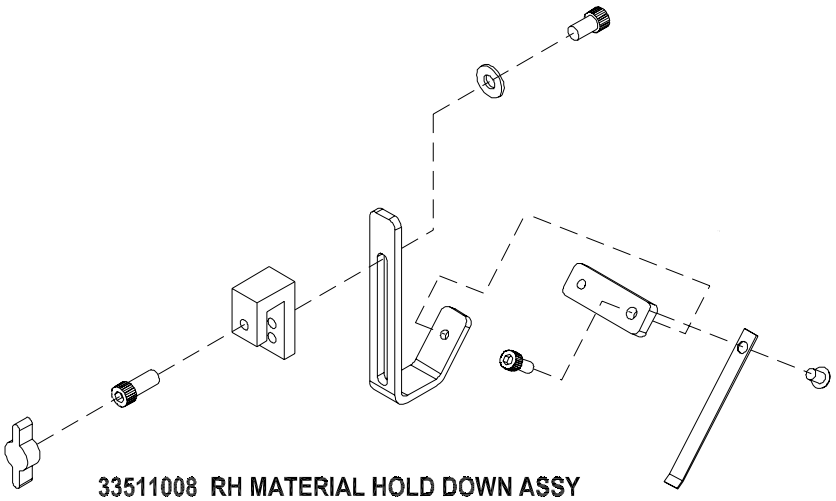
8: CLUTCH/BRAKE COMPONENTS

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
8-1	1	Pulley, Timing 18XL037.375KDFHA	43500098
	2	Screw Socket Set 10-32 X 1/4” LG	00002216
	1	Key Woodruff 1/8 X 3/8	00003351
8-2	2	Block R8 Bearing Shaft Mount	44846042
8-3	2	Bearing Ball R8	23500094
8-4	3	E Clip, 1/2 Shaft	00001155
8-5	1	Shaft Clutch	44846043
8-6	1	Clutch Brake 50 Inch lb 90VDC	44846064
8-7	1	Pulley, Timing 32XL037 .765DFA	44846065
8-8	3	SHCS 6-32 X 1/2” LG	00002212
8-9	1	Washer 1/2 Teflon	44846066
8-10	1	Block Clutch Lock	44846053

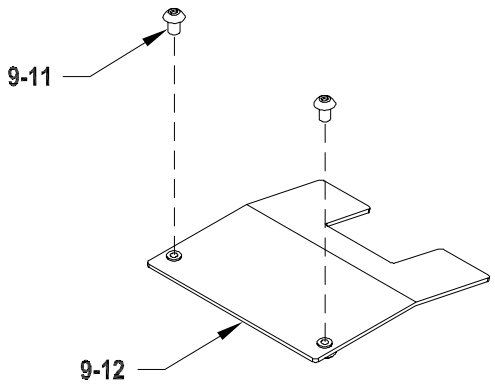
9: MAILING KIT ASSEMBLY #84611004



33511009 LH MATERIAL HOLD DOWN ASSY



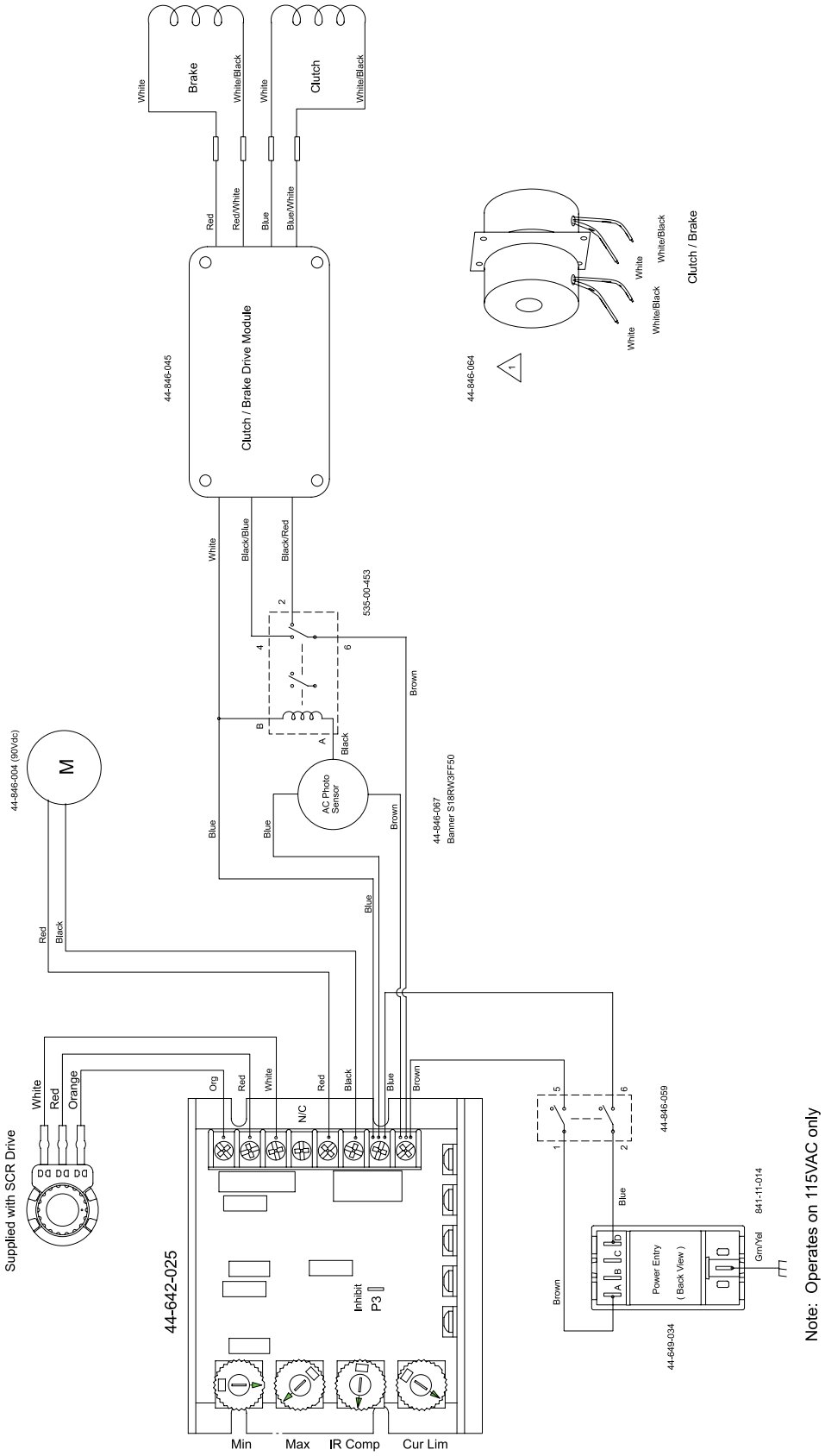
33511008 RH MATERIAL HOLD DOWN ASSY



9: MAILING KIT ASSEMBLY #84611004

DIAGRAM NUMBER	QTY	DESCRIPTION	PART NUMBER
33511009: LH MATERIAL HOLD DOWN ASSY			
9-1	1	Knob Black Wing #10	23500076
9-2	1	SHCS 10-32 X 1/2” LG	00002315
9-3	1	Bracket Universal Guide Bar	23500051
9-4	1	Bar Universal Guide	23500050
9-5	1	Washer Flat #10	00002607
9-6	1	SHCS 10-32 X 3/8” LG	00002310
9-7	1	SHCS 8-32 X 3/8” LG	00002213
9-8	1	Extension Material Hold Down	33500023
9-9	1	Spring Material Hold Down	23500102
9-10	1	BHCS 8-32 X 1/4” LG	00002210
33511008: RH MATERIAL HOLD DOWN ASSY			
Contains same part numbers and quantities as above assembly. Note change in orientation of parts			
OTHER			
9-11	2	BHCS 8-32 x 1/4” LG	00002210
9-12	1	Plate Insert Tab	33500008

8 Electrical Diagram



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