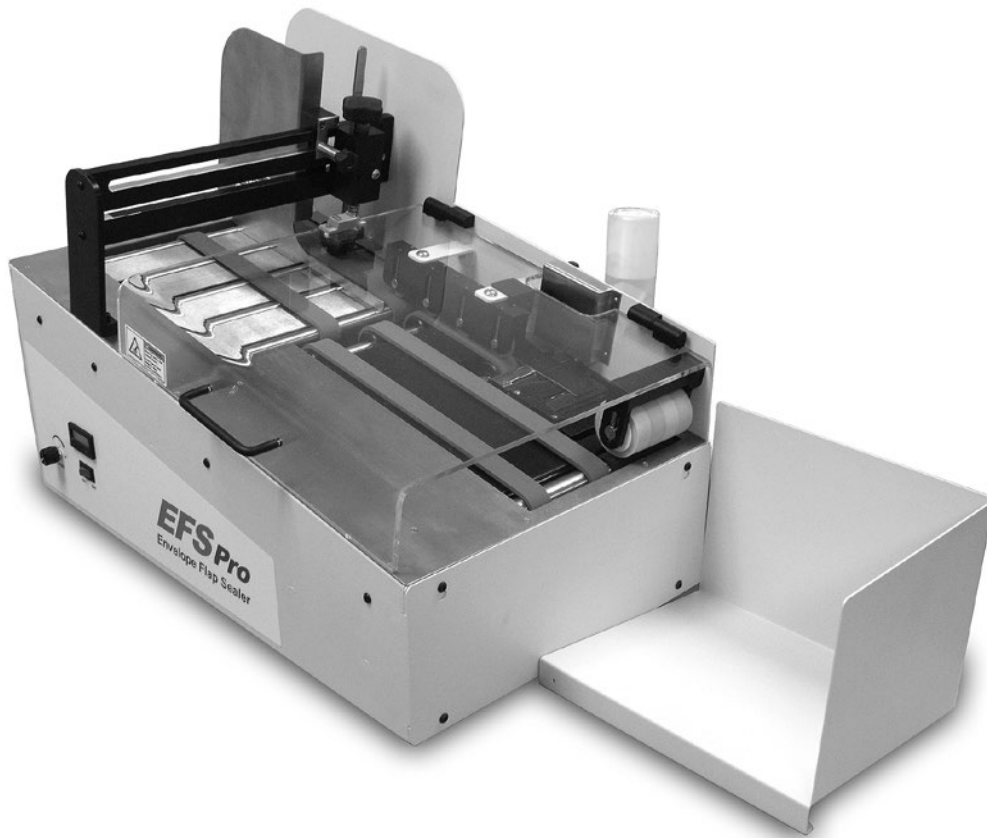


EFS Pro

Manual



Thiele
Technologies

Streamfeeder



PRODUCT LINE

Part Number 904537

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Thiele Technologies, Inc. - Streamfeeder
315 27th Avenue NE
Minneapolis, MN 55418 USA

TEL: (763) 502-0000
FAX: (763) 502-0100
E-MAIL: service@streamfeeder.com
WEB: www.streamfeeder.com

Printed in the USA.

CONTENTS

Before You Begin	ii
Message Conventions	ii
Safety	iii
Specifications	iv
Section 1: About the Machine	1
Section 2: Set Up	3
Section 3: How to Operate	10
Section 4: Troubleshooting	13
Section 5: Inspection and Care	15
Section 6: Mechanical Components	23
Section 7: Electrical Diagrams	43
Envelope Sealing System Parts Manual	46

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.



TECHNICIAN indicates that a qualified technician should be alerted to the corresponding tasks and information.



OPERATOR indicates that an operator should be alerted to the corresponding tasks and information.



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.

SAFETY

TECHNICIAN

OPERATOR

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 Thiele-Streamfeeder has made every effort to incorporate safety features in the design of this feeder, 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 to this product. This product is built with the highest quality materials. However, damage can occur if the system is not operated and cared for within design guidelines as recommended by Thiele-Streamfeeder.

To insure proper machine operation make sure that all the safety devices are installed properly and functioning. If the feeder has the media sensor on the side guides insure that these are properly installed. Do not attempt to defeat a safety interlock or safety feature.

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.

SPECIFICATIONS

Maximum Product Size: 10 in. W x 13 in. L (254 mm x 330 mm)*

Minimum Product Size: #9 envelope, 3-7/8 in. W x 8-7/8 in. L (98 mm x 225 mm)*

Min/Max Product Thickness:003 in. to .25 in. (.076 mm - 6.35 mm)

Belt Speed: 1,800 in/min (46 m/min)

Utilities: 115vac, 50/60Hz, 3A

Weight: 90 lbs. (41 kg)

Warranty: One year limited

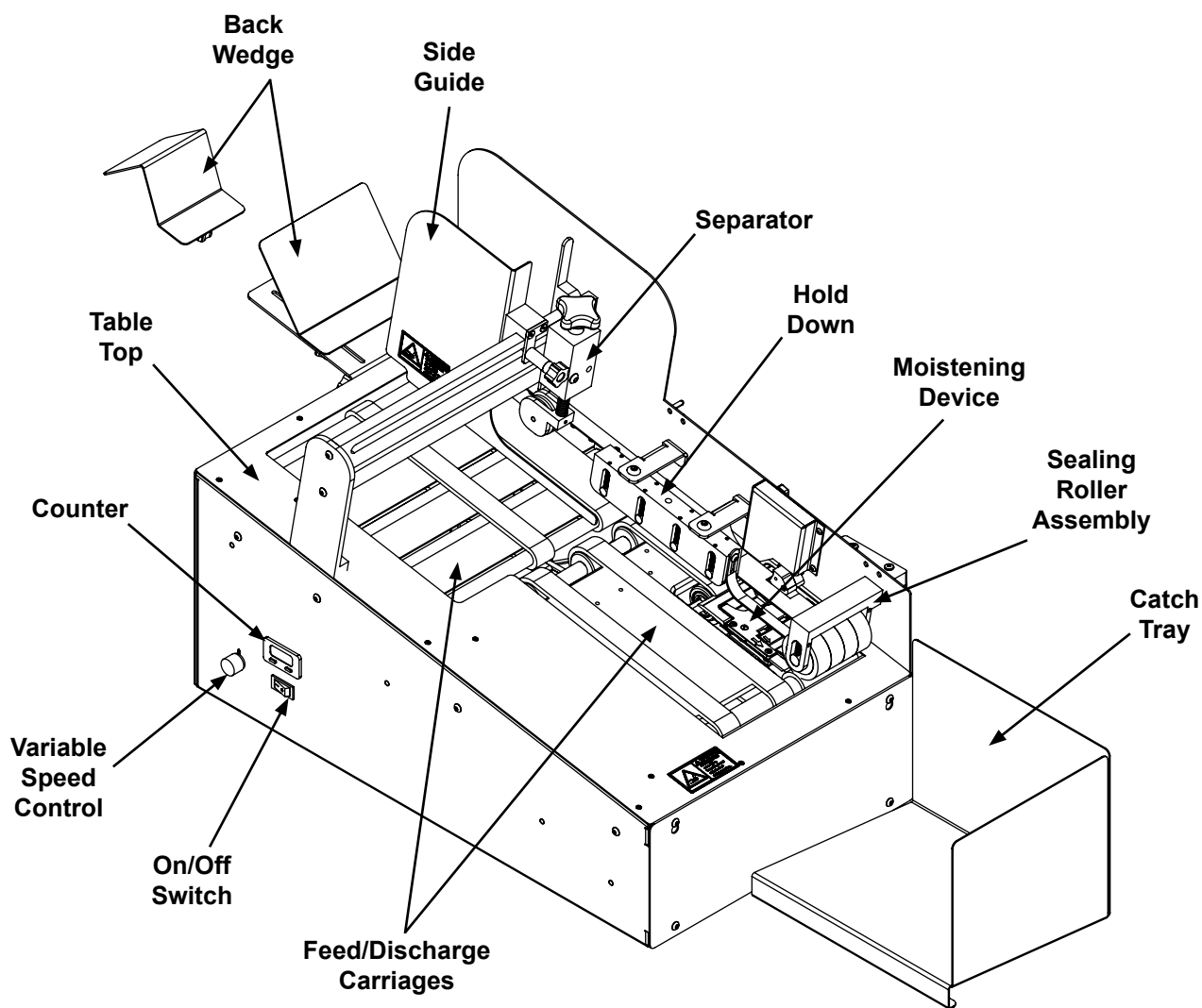
*Short edge leading

1 About the Machine

Main Assemblies

The EFS Pro is an automatic envelope flap sealer, reducing the time and mess of manually sealing envelopes. From a #9 envelope to a 10x13, and with various flaps, the EFS Pro will provide consistent feeding and flap sealing quality. Convenient and easy to set-up, along with quick changeover from one job to another.

Familiarizing yourself with names and locations of feeder parts and adjustments will help to prepare you for initial setup.



Main Assemblies Feature Descriptions

Feature	Description
Moistening Device	Assembly is used to separate the flap from the envelope, allowing the flap portion of the envelope to pass and to come in contact with moistening brush. The assembly also can be manually adjusted with the use of a lever to allow envelopes to bypass the opening mechanism.
Sealing Roller Assembly	Final roller assembly (downstream from moistening device). Applies pressure on moistened and sealed envelope, securing flap closure to envelope.
Counter	Digital and resettable with the use of the reset button.
Variable Speed Control	Adjustment of this potentiometer type control will change the feed speed of the unit. Turning the knob counter-clockwise decreases speed; clockwise increases speed.
On/Off Switch	Rocker style switch toggles AC power On or Off.
Table Top	One piece shell for mounting of all sub-assemblies and components.
Back Wedge	Lifts the envelopes to keep them off the table top, reduces excessive contact with the feed belts, and helps push the envelopes against the curvature of the separator assembly.
Side Guide	Allows lateral adjustment from side for different size envelopes.
Separator	Single separator mounted above the carriage housing the feed belts. This device provides a curvature to help preshingle stacked envelopes. When properly adjusted, a clearance is created to help singulate and feed envelopes.
Non-Adjust Hold Down	Provides the friction and motion necessary to pull envelopes away from the separator assembly. Positioned above discharge belts. Assists in creating gap between envelopes in discharge section.
Removable Feed/Discharge Carriages	Houses the feed belts which provides the friction and motion necessary to pull individual envelopes from the bottom of the stack and through the separator assembly. Easy to remove for feed belt replacement.

2 Set Up



When performing initial feeder adjustments prior to operation, 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 moving parts which can cause serious injury.

Do not attempt to make any adjustments while the feeder and machine of application 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.

Prepare the machine for operation. To do so, set up the envelopes you are going to be feeding. Do a test run with the envelopes to verify it is set correctly before you begin cycling the feeder.

You will have to perform this procedure for envelopes you plan to feed.

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

- 1: Separator adjustment
- 2: Side guide adjustment
- 3: Back wedge adjustment
- 4: Manual test to verify
- 5: Envelope Moistening Device Setup

STEP 1: Separator Adjustment



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



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



Feeding problems will occur with either too much envelopes in the hopper, or too large a gap between the separator assembly and the envelopes.

Review

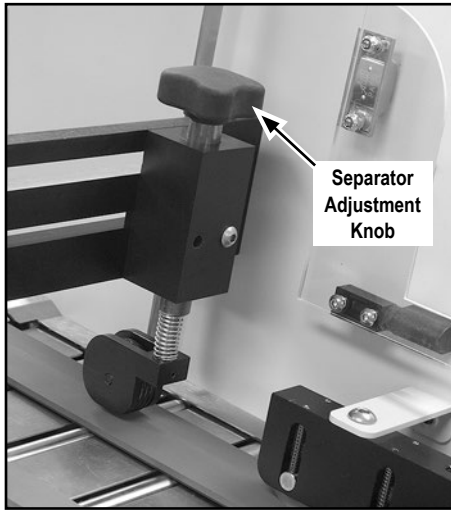
The separator assembly provides the curvature to help preshingle envelopes and the proper gap to help the feed belts pull envelopes through the separator assembly area — one at a time. The downward pressure (or weight) of the stack in the hopper will provide the force to help push the envelopes against the curvature of the separator assembly, and help it contact the feed belts. This preshingling will allow the separator assembly to efficiently separate (and singulate) envelopes.

To achieve the optimum separation, you have to use the adjustment knob to either increase (clockwise) or decrease (counterclockwise) the gap between the separator assembly and the feed belts.

Objective

Adjust the separator assembly for minimum gap, with minimum pressure on the envelopes. Your objective is to adjust the clearance so that a single envelope passes without resistance. The optimum setting should be a gap adjustment of 1.5 thickness of an envelope.

STEP 1: Separator Adjustment (continued)



1. Slide a single envelope between the feed belt and the separator.
2. Rotate the separator adjustment knob either up or down until the envelopes can be pulled from under the separator assembly with a slight amount of drag.
3. Repeat the drag tests and adjust as needed to achieve acceptable clearance.



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

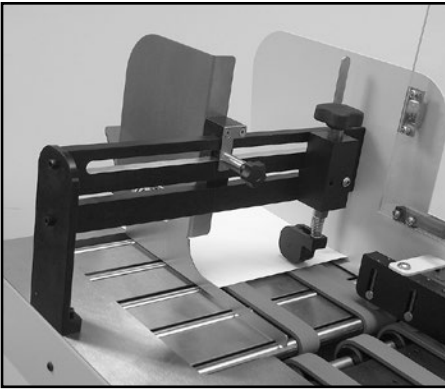
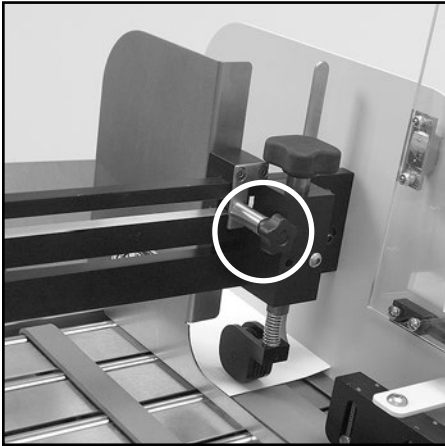


A wider gap between envelopes and belt provides the highest tolerance for curled and bent edges.

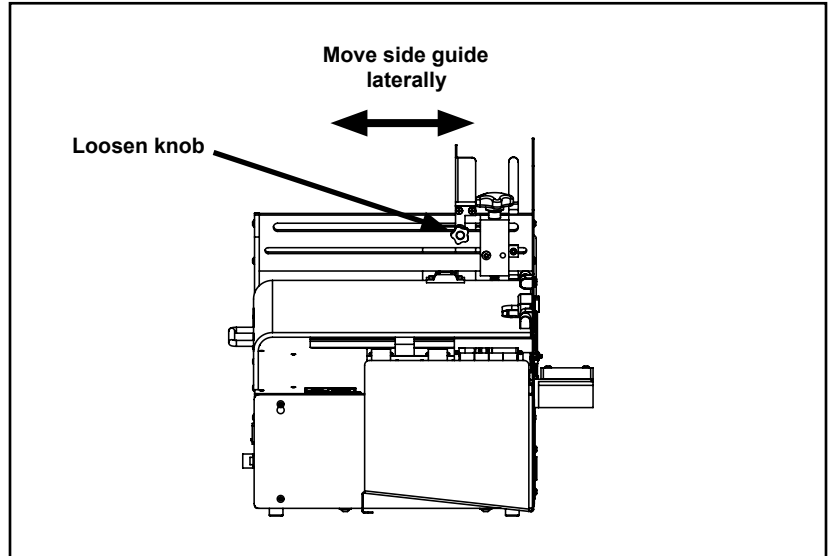


Feeding problems will occur with either too many envelopes in the hopper, or too large a gap between the separator assembly and the envelope.

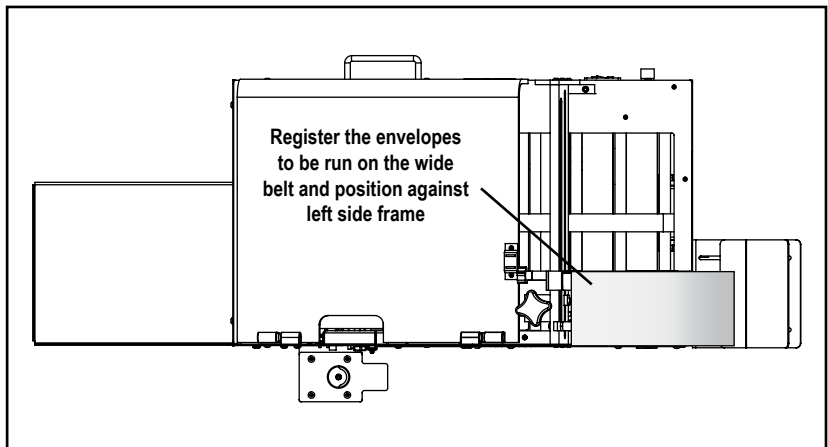
STEP 2: Side Guide Adjustment



1. Loosen the side guide knob. This will allow you to move the side guide from side to side.



2. Register the envelopes to be run on the wide belt and position against left side frame.
3. Place a handful of pre-shingled envelopes in the hopper and against the separator.
4. Test run to assure proper feeding and singulation.
5. Tighten the side guide lock knob to secure the position.



STEP 3: Back Wedge Adjustment



Moving the back wedge too far forward to the separator assembly can create a pinch point between the tip of the triangle wedges and the envelopes.



Keep in mind that the back wedge works with the separator assembly to provide the proper lift, curvature of the envelopes, and proper belt/envelopes contact to separate and feed one sheet at a time.

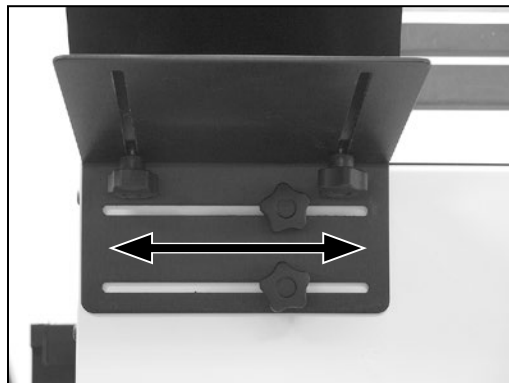
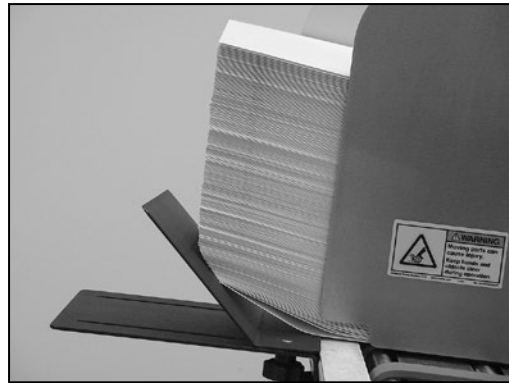


There are a number of feeding problems which can be solved by simply adjusting the back wedge to different positions. Some of these problems include double feeds, skewing, twisting, poor singulation and jamming at the separator assembly area.

Procedure

Adjust the back wedge for proper positioning following these steps:

1. Grasp a handful of envelopes, approximately 2 to 2.5 in. (5 to 6 cm) thick, and preshingle the edges with your thumb.
2. Place the pre-shingled envelopes in the hopper so that the front edges rest against the curvature of the separator assembly. The envelopes should be loaded flap side down with the hinge portion against the feeder side frame.
3. Loosen the wedge adjustment lock knob.
4. Move the wedge back and forth until the bottom envelope is not touching the table top. (see photo)
5. Make sure the wedge assembly is parallel with the edge of the envelopes stack. Adjust as required and tighten the lock knob.
6. Wedge adjustments for wider envelopes can be achieved with lateral adjustment. (See photo below)



STEP 4: Manual Test to Verify



If the separator assembly is too tight, the feeder will have difficulty pulling the envelopes through the separator assembly area. This will cause “missed” feeds.



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



For certain types of envelopes, you may have to position the envelopes “off-center” to prevent any skewing affect.

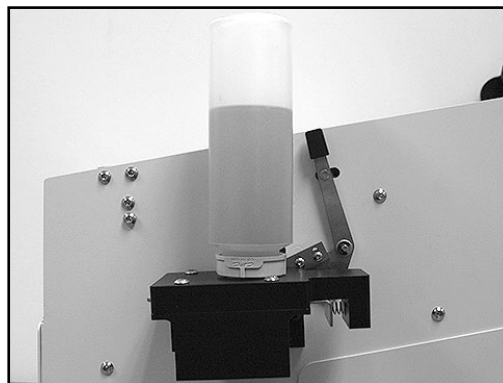
STEP 5: Envelope Moistening Device Setup

Now that you have made all the necessary adjustments for operation, it is recommended that you verify envelopes singulation and separation at the feeder for your particular application. Before you power-up and run your machine with a full hopper, manually feed several pieces of envelopes through the separator assembly area.

Prepare your test by loading the hopper with approximately 2 to 2.5 in. (5 to 6 cm) of envelopes. Make sure you preshingle the stack so that envelopes rests against the curvature of the separator assembly.

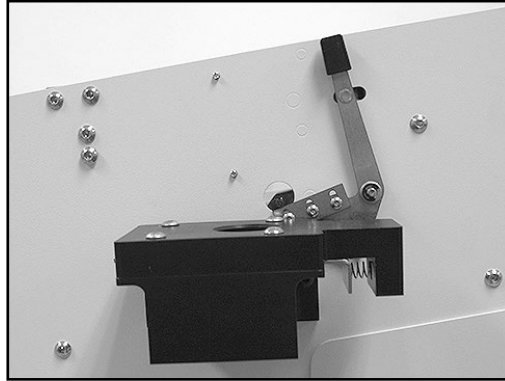
1. With the power off, manually feed several pieces of envelopes slowly through the separator assembly area.
2. Observe how individual envelopess enter and exit the separator assembly area. Remember, a properly set gap will allow each new piece to enter at about the center line of the cylinder while the bottom piece is exiting the separator assembly area.
3. If feeding doubles, then move the wedge in towards the separator assembly. Test again.
4. If pieces are overlapping excessively or, if the machine is feeding doubles, then reduce the gap slightly by moving the separator(s) adjustment knob about 1/8 turn counter-clockwise. Test again.
5. As envelopes moves through the hold-down area, check for any skewing or jamming. Also check for damage to the envelopes.
6. If this or other feeding problems still persist (slipping, skewing, jamming), then review all the adjustment procedures in “Preparing for Operation”.

Remove cap from bottle and fill with either water or flap sealing solution. Replace cap tight to prevent air leaks which could result in overfilling and leaking within reservoir. Quickly tip bottle upside-down and insert into top of reservoir until firmly latched.

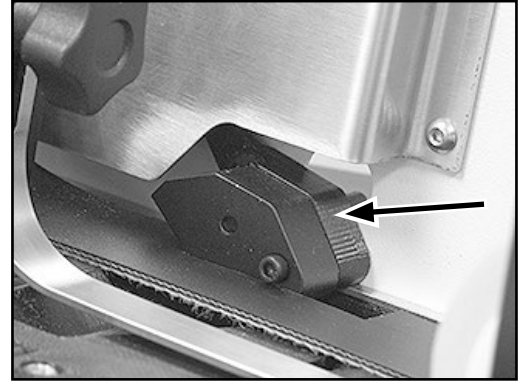


**STEP 5:
Envelope Moistening
Device Setup
(continued)**

The moistening device runs in two different modes. The selection of these two modes is achieved with the use of a lever. One is what is called the production or flap opening mode. In this mode the envelope is fed flap down with the hinge portion of the envelope up against the left side frame of unit (also used for left side guide and registration).

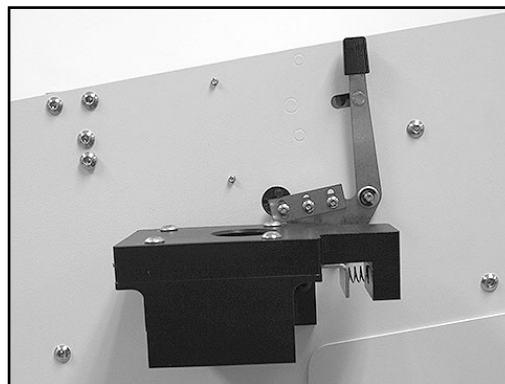


Production or flap opening mode

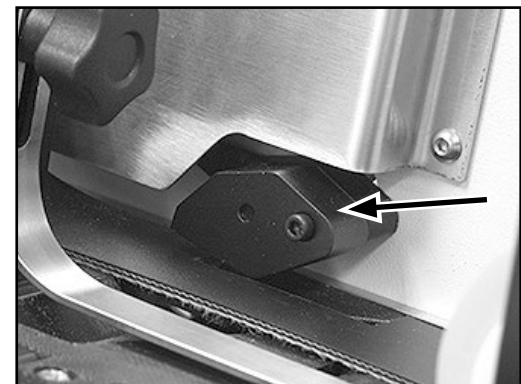


When the envelope passes through the moistening device, a divert tab (shoe) located above the envelope applies slight pressure from the top side of the envelope. When this pressure is applied, the envelope flap is deflected down and under a knife device that leads to the sealing brush. With the flap somewhat open and away from the body of the envelope, the sealing brush is allowed to apply moisture to the flap.

The second mode is the by-pass mode. The divert tab or shoe is in the retracted or up position, not in the direct path of envelopes as they pass over the moistening device.



Bypass mode

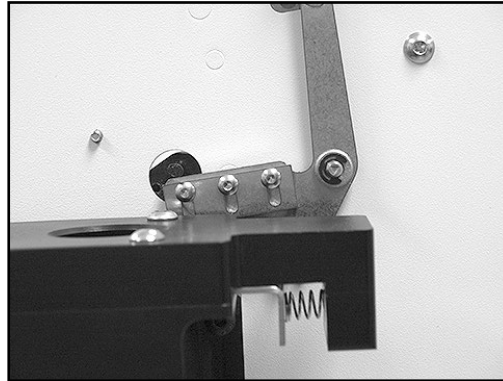


STEP 5: Envelope Moistening Device Setup (continued)



“Thin/Thick” adjustment bracket in the down position (factory) should be used for running thinner stuffed envelopes.

Additional adjustment may be needed on the divert tab when running thicker envelopes (up to 1/4” maximum).

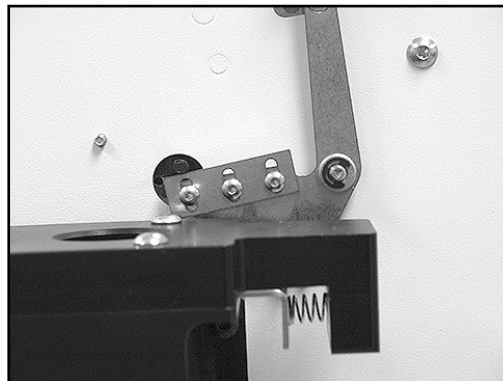


“Thin/Thick” adjustment bracket in the down position (factory).

With the use of a 5/64” Allen Wrench you can reposition the adjustment bracket to the up position. This adjustment should be completed when running thicker envelopes.



“Thin/Thick” adjustment bracket in the up position (factory) should be used for running thicker stuffed envelopes.



“Thin/Thick” adjustment bracket in the up position (factory).

3 How to Operate

This section provides a *sequence of operation* for the feeder. It also provides information for *clearing a jam* and for *shutdown*.

Sequence of Operation

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

- 1: Loading envelopes in the hopper
 - 2: Determining stack height
 - 3: Powering On feeder
 - 4: Setting/adjusting speed
 - 5: Final check
-

STEP 1: Loading Envelopes in the Hopper



Preshingling prevents multiple pieces from jamming under the separator assembly at startup.

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

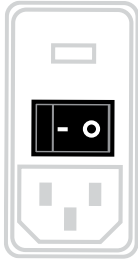
STEP 2: Determining Stack Height



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

1. Gradually add more envelopes to the hopper after the initial stack is formed around the separator assembly. The stack height will have a preferred minimum and a maximum, you will have to experiment to determine effective range of height.
 2. Make sure the envelopes are loaded in the hopper as straight as possible. Before adding to hopper, “jog” each handful of envelopes 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. “Fanning” the stack prior to loading it into the hopper may reduce double feeds.
-

STEP 3: Powering On Feeder



Turn the feeder power On by pushing the horizontal line (—) at the **Power On/Off** rocker switch.

STEP 4: Setting/Adjusting Speed

1. Set the variable speed control to the lowest speed (counter-clockwise). *Feeder motor stops if turned completely counter-clockwise.*
2. Start by slowly turning the control clockwise to gradually increase feeder speed to coincide with the desired speed.

STEP 5: Final Check

Make sure:

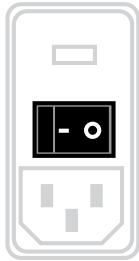
- Proper separation is occurring at separator assembly area.
- Envelopes is not skewing.
- Effective preshingling is occurring at curvature of separator assembly.
- Envelopes is not being damaged during cycling.
- Feeder is secured and will not move during operation.

Clearing a Jam

If a jam occurs during operation, follow these steps:

1. Turn the feeder power Off by pushing the circle (○) at the rocker **Power** On/Off rocker switch.
2. Remove jammed envelopes from feeder. While doing so, try to determine the cause of the jam (see “Troubleshooting”).
3. Verify whether any adjustments are loose. If so, refer to “Preparing for Operation”, for proper adjustment procedures.
4. Turn the feeder power back On by pushing the horizontal line (—) at the **Power** On/Off rocker switch.

Shutdown



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

1. Turn the feeder power Off by pushing the circle (○) at the rocker **Power** On/Off rocker switch.
2. Disconnect the feeder power cord from the AC power source. *If installed, disconnect external run input from feeder control panel.*
3. Remove water bottle.
4. Cover the feeder with a cloth or plastic tarp to prevent dust.

4 Troubleshooting

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

Problem	Cause	Solution
No AC power to feeder	<ol style="list-style-type: none"> 1. On/Off switch in "Off" (or "O" position). 2. Power cord loose or not plugged into outlet (or AC power source). 3. Female end of power cable loose or not plugged into AC power inlet at rear of feeder. 	<p>Move switch to "On" (or "—" position).</p> <p>Check and secure power cord at AC outlet.</p> <p>Check and secure cord at AC power inlet at rear of machine.</p>
Feeding doubles	<ol style="list-style-type: none"> 1. Separator assembly improperly adjusted (possibly more than one envelope thickness). 2. Back wedge improperly adjusted. 3. Worn O-rings (or angled edge). 4. Envelopes interlocking. 5. Static buildup. 	<p>Review separator adjustment procedure.</p> <p>Review back wedge adjustment procedure.</p> <p>Rotate O-rings. If applicable, replace angled edge. If wear is excessive, consult with a qualified technician.</p> <p>Check envelopes and source.</p> <p>Check envelopes and source.</p>
Feed belts are operating, but envelopes not feeding	<ol style="list-style-type: none"> 1. Envelopes stack height is too low when stack height is down, resulting in reduction of down pressure. 2. Binding in side guides. 3. Loss of friction on feed belts. 4. Sheet adhesion or interlocking between the bottom and next envelope. 	<p>Review envelopes loading procedure.</p> <p>Adjust side guides further apart to allow freedom of movement between envelopes.</p> <p>Refer to "Cleaning Feed and Discharge Belts".</p> <p>Review envelopes loading procedure and back wedge adjustment procedure.</p>

Troubleshooting (continued)

Problem	Cause	Solution
Feed belts are operating, but envelopes not feeding (continued)	5. Separator assembly may be down too tight. 6. Too much weight in hopper.	Review separator assembly adjustment procedure. Remove envelopes from stack. Test again.
Jamming occurs during operation	1. Improper adjustment in one or more of the following: <ul style="list-style-type: none"> • separator assembly • back wedge • envelopes control 	A. Turn the Power switch to "Off" by pressing the circle (O). B. Remove jammed envelopes from feeder. While doing so, try to determine the cause of the jam. C. Verify each adjustment by reviewing the "Preparing for Operation" section of the manual.
Envelopes skewing	1. Back wedge not aligned properly. 2. Improperly adjusted separator(s) horizon.	Review back wedge adjustment procedure. Review separator assembly adjustment procedure.

5 Inspection and Care

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.



When performing initial feeder adjustments prior to operation, 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 startup, and therefore moving parts which can cause serious injury.

Do not attempt to make any adjustments while the feeder and machine of application 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.

Visual Inspection

Checking for Feed Belt Wear

Check for visual signs of:

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

Checking for Timing and 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 belts.

Ensuring Proper Timing Belt Tracking

Check for visual signs of:

- Misaligned timing pulleys.

Checking for Separator Assembly Wear

Check for visual signs of wear:

- Flat areas along the O-rings.
- Gum-like envelopes build-up around separating surface.

Visual Inspection (continued)

Standard O-Ring Separator: Adjusting Worn O-Rings

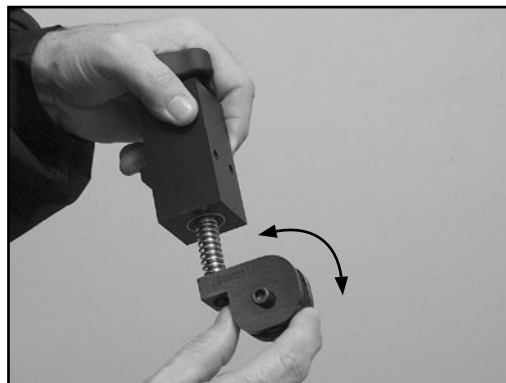
To adjust worn O-rings:

1. Turn Off feeder and remove power cord from outlet.
2. Remove separator assembly from hopper plate.
3. Loosen cap screw holding o-ring spool in housing.



Loosen cap screw

4. Rotate o-ring spool clockwise or counter-clockwise to relocate worn o-ring area about 1/8" to 1/4" (3 to 6mm).



Rotate o-ring spool

5. Tighten cap screw to secure o-ring spool within housing
6. Reinstall separator assembly and restore power.

Preventive Care



Use only isopropyl alcohol. Other solvents can cause belts to wear prematurely, and even cause total breakdown of envelopes.

Cleaning schedule for various envelopess:

- Typical: *every month*
- Dusty: *after every shift*
- High ink or varnish: *1 time per shift or as needed to maintain coefficient of friction integrity*



Depending on the application, it may be necessary to move the feeder from original installation so as to access the separator assembly.

Cleaning schedule for various envelopess:

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

Cleaning Feed and Discharge 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 hand to move the feed belt, starting with one feed belt at a time and carefully pressing the moistened area of the cloth to the belt. As you rotate the belt, use moderate pressure to wipe across the belt. After several rotations of the belt, repeat for each belt.
4. Restore power.

Cleaning Separator 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 o-ring.

To clean separator assemblies:

1. Turn Off feeder and remove power cord from outlet.
2. Remove separator assembly from bracket assembly.
3. Apply a small amount of isopropyl alcohol to a soft cloth.
4. Wipe across O-rings, or angled wedge if applicable. First wipe in one direction, then the other.
5. Reinstall separator assembly and restore power. *It may be necessary to re-check alignment of feeder with host machine if feeder was moved from original installation position (for a review, refer back to “Installing the Machine”).*

Preventive Care (continued)



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

Cleaning 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. Restore power.

Carriage Feed Belt Replacement

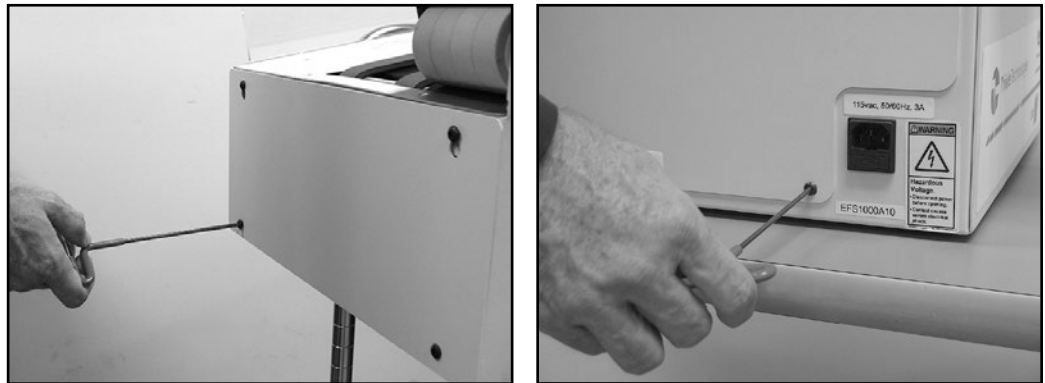
Removal

The procedure for feed belt replacement requires the removal of:

- Two covers
- Loosening of the drive belt tensioner and disengagement of timing belt.
- Removal of the envelope detection sensor
- Removal of the left and right side hardware that secures the carriage to the frame.
- Removal of carriage from framework
- Feed belt removal and replacement

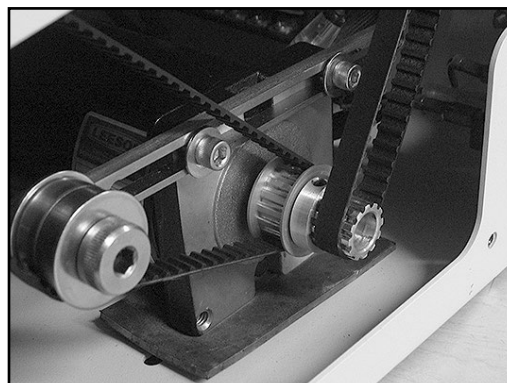
1. Two covers:

With the use of a hex wrench remove the front and side covers.



2. Belt tensioner and timing belts:

Loosen belt tensioner (attached to motor frame). Disengage outside timing belt from motor drive pulley. Once disengaged, remove inside timing belt from inside pulley.



Carriage Feed Belt Replacement (continued)

3. Removal of sensor:

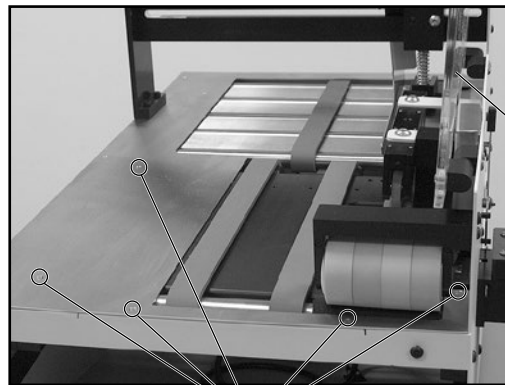
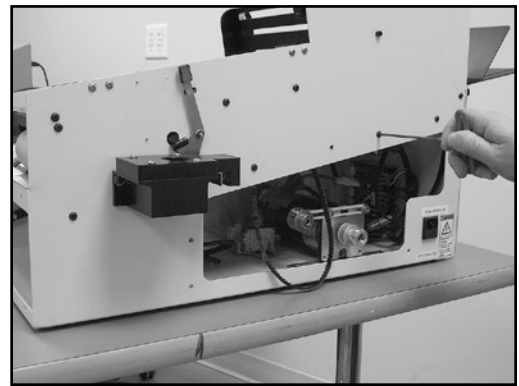
Locate sensor (yellow, barrel type) mounted in carriage assembly. Unscrew (counter-clockwise) until sensor is released from housing. Allow sensor to hang out of the way while carriage is removed and then inserted back into unit.

4. Remove guide cover:

With the use of a hex wrench, remove the three guide cover screws before removing carriage.

5. Hardware removal:

With the use of a hex wrench, remove the right and left side hardware that secures the carriage to the framework.



Remove three guide cover screws

Remove five deck screws

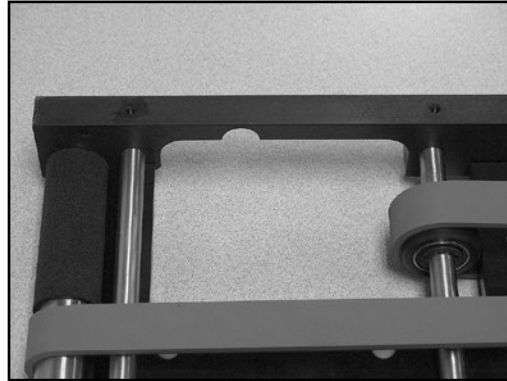
6. Removal of carriage from framework:

Once the hardware securing the carriage to the framework is removed, the carriage will drop down onto a left and right support rail. This along with the removal of the front cover allows access for the removal of the carriage out the front of the framework.

Carriage Feed Belt Replacement (continued)

7. Feed belt removal and replacement:

With the carriage removed and benchtop, remove the left side carrier block from carriage assembly.



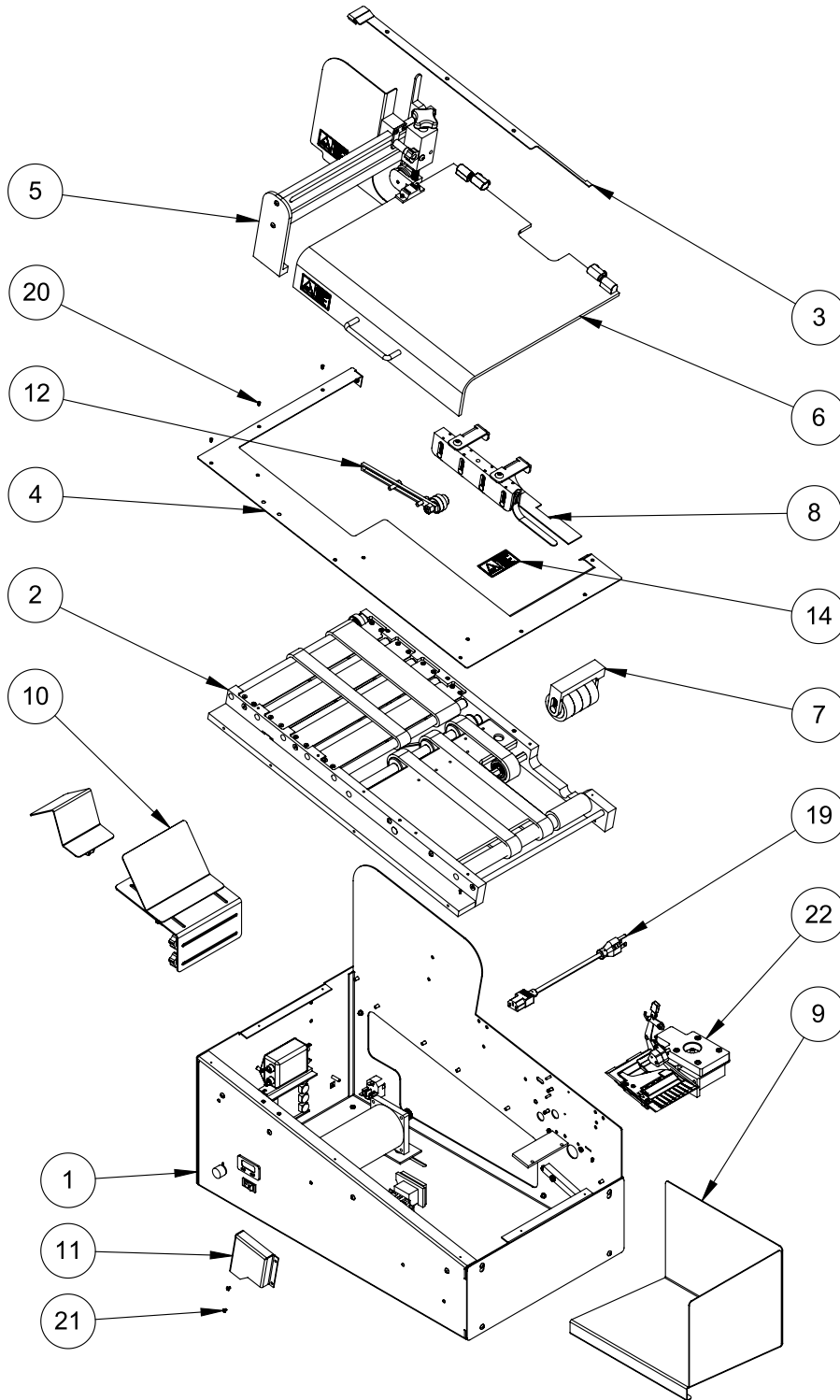
With the carrier block removed, pull the feed belts off the same end of the carriage the block was removed from. Belts can be removed one at a time and replaced in reverse order.



Reassembly of carriage, installation of carriage, sensor, belt tensioning, and covers are accomplished in reverse order of instructions mentioned above.

6 Mechanical Components

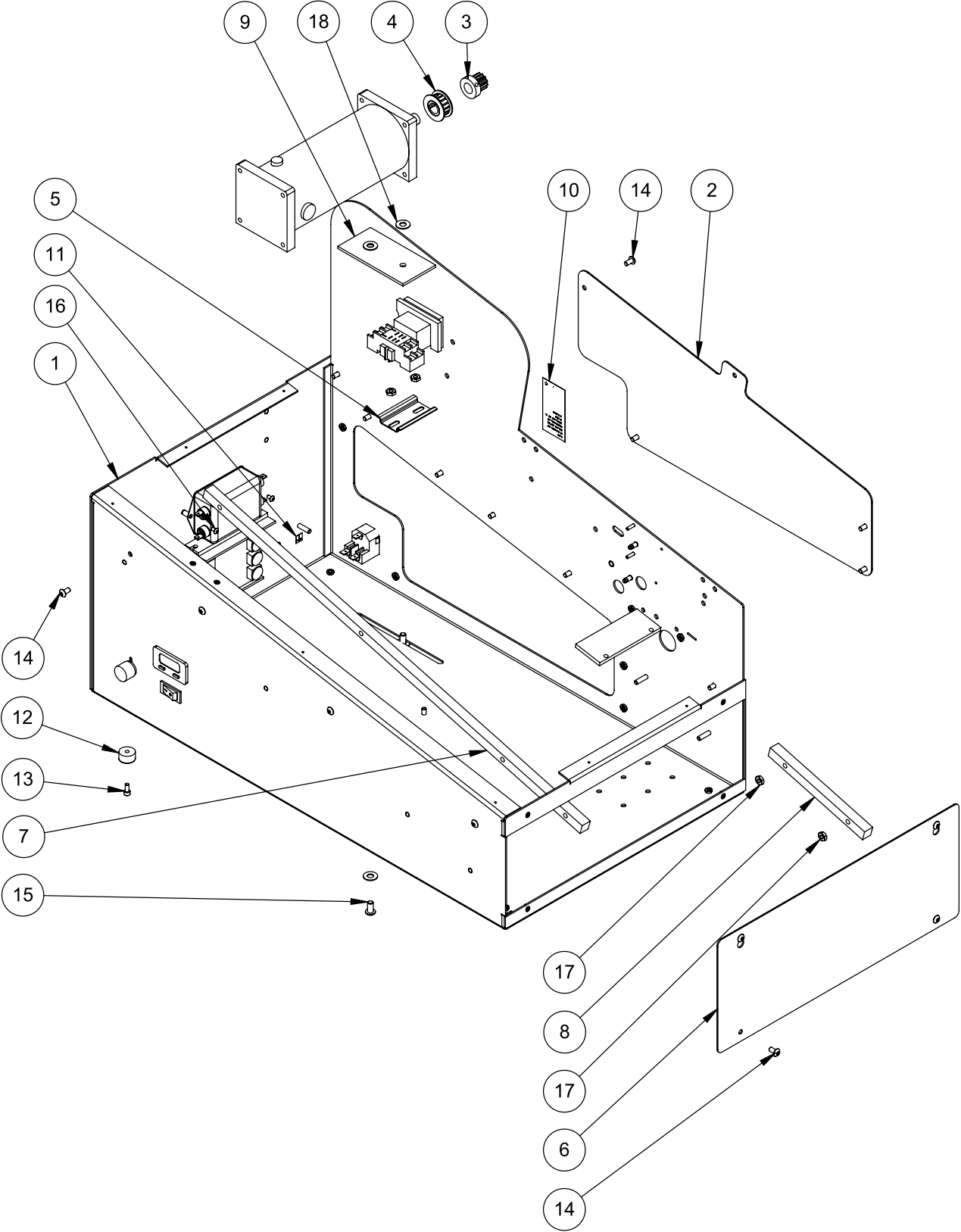
EFS PRO ASSEMBLIES Assembly # 311-1418



EFS PRO ASSEMBLIES
Assembly # 311-1418

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	311-1419	ASSY, ES-PRO BASE SHELL
2	1	311-1417	ASSY, EFS-PRO CARRIAGE
3	1	904658	GUIDE COVER
4	1	904613	DECK PLATE EFS-PRO
5	1	311-1318	ASSY ES-1000 HOPPER
6	1	311-1431	ASSY, ES-PRO COVER
7	1	311-1319	ASSY, ES-1000 NIP ROLLER
8	1	311-1323	ASSY, HOLD DOWN SINGLE SKATE
9	1	904363	CATCH TRAY
10	1	311-1324	ASSY, ES-1000 WEDGE
11	1	904419	COVER
12	1	311-1347	ASSY,BELT TENSIONER
13	1	904420	EFS PRO GRAPHIC SET
14	1	53500609	LABEL, WARN INJURY 2.7 X 1.4
15	1	904403	ELS FEEDER PACKAGING BOX
16	1	904405	ELS FEEDER BOX INSERT
17	1	904599	EFS-PRO UNPACK YR MACHINE DOC
18	1	611-0448	ASSY, EFS ELECTRICAL
19	1	904950	CORD, PWR 115 VAC IEC 3 PRGGND
20	11	904430	SCREW, FH, UNDERCUT #4-40 X 1/4 LG.
21	2	102954B11	BHCSS SST 6-32 X .19
22	1	904637	ENVELOPE SEALER PRO

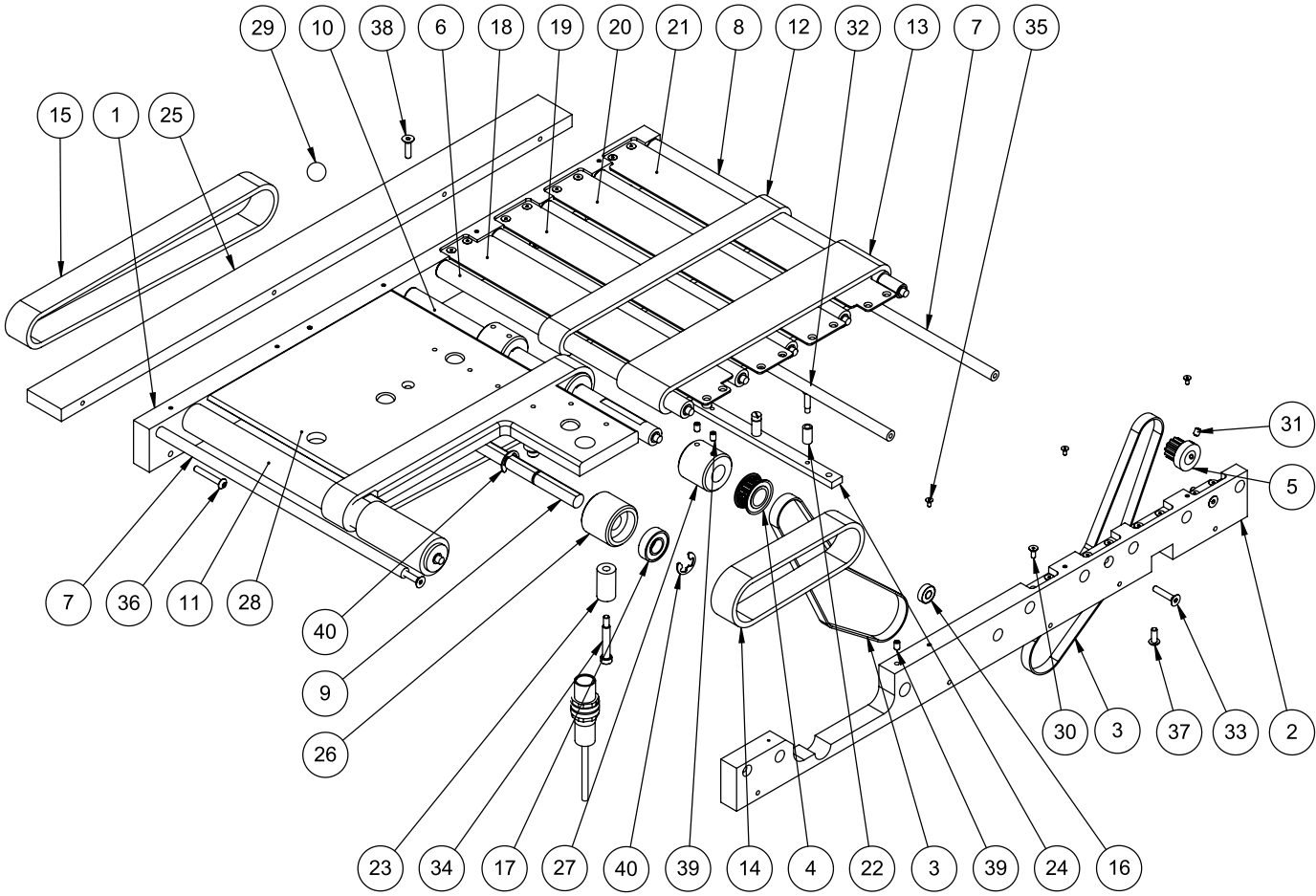
BASE ASSEMBLY
Assembly # 311-1419



BASE ASSEMBLY
Assembly # 311-1419

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904608	EFS-PRO BASE SHELL
2	1	904357	COVER
3	1	43555302	PULLEY, TIMING 12T XL 1/2 BORE
4	1	43560097	PULLEY, TIMING 16T XL 1/2 BORE
5	3.5"	904010	DIN RAIL 35 X 7MM LX-12
6	1	904457	COVER
7	1	904463	CARRIAGE INSERT RAIL
8	1	904464	CARRIAGE INSERT RAIL SHORT
9	2	904558	MOTOR PAD
10	1	900801	LABEL HAZARDOUS
11	1	900739	LABEL, GROUND EARTH
12	4	11079012RC	RUBBER BUMPER, STYLE 2 WITH WA
13	4	102685B02	SHCS BLACK OXIDE 8-32 X .38
14	18	102957B02	BHCS SST 10-32 X .38
15	4	102958B03	BHCSS SST 1/4-20 X .50
16	6	102954B01	BHCSS SST 6-32 X .25
17	8	103112B07	HEX NUT SST 10-32
18	8	103272B02	WASHER FLAT SAE SS 1/4

CARRIAGE ASSEMBLY
Assembly # 311-1417

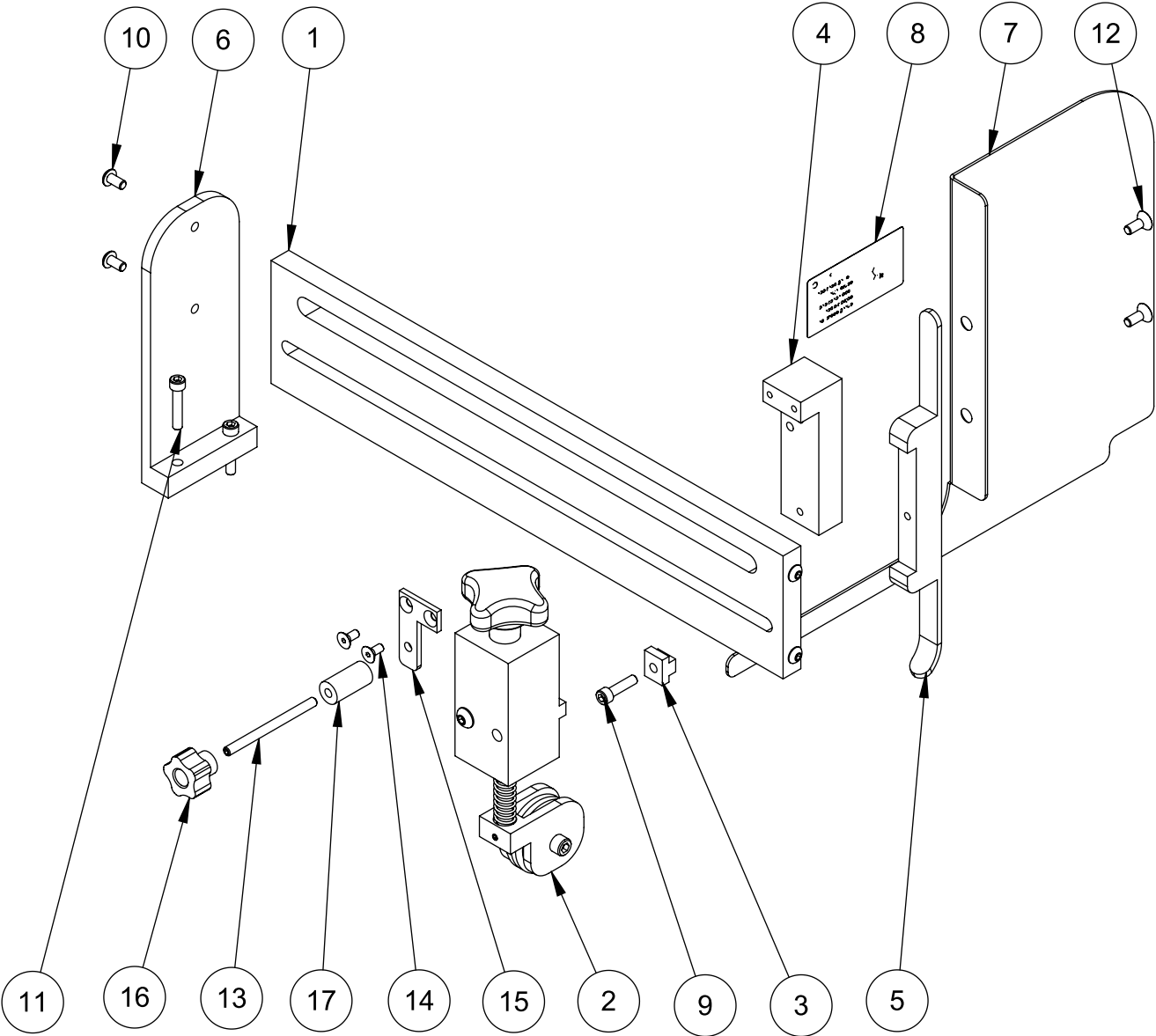


CARRIAGE ASSEMBLY
Assembly # 311-1417

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	904610	CARRIAGE RAIL, RH EFS-PRO
2	1	904609	CARRIAGE RAIL, LH EFS-PRO
3	2	49994HS	BELT, TIMING XL, 105 TEETH
4	1	44582028	PULLEY, TIMING 16T XL 5/8 BORE
5	1	43555302	PULLEY, TIMING 12T XL 1/2 BORE
6	4	51745032	SHAFT, SUPPORT
7	3	51745071	SHAFT CARRIAGE SUPPORT
8	1	51745019	SHAFT, LOWER
9	1	904322	SHAFT
10	1	904448	SHAFT, D-PROFILE SUPPORT
11	1	904319	DISCHARGE IDLER SHAFT
12	1	51745035	BELT, GUM FEED
13	1	903773	BELT, BLUE FEED 2"
14	1	904326	BELT, GUM FEED
15	2	904612	BELT, GUM FEED EFS-PRO
16	14	44582021	BEARING, BALL R4 .25 BORE
17	2	23500094	BEARING BALL R8 .500 BORE
18	1	900939	COVER
19	1	900940	COVER
20	1	900941	COVER
21	1	904493	COVER CARRIAGE BELT
22	4	51745064	SPACER, BELT
23	6	904352	STANDOFF .252 ID X .63 OD X 1.13 LG NYLON
24	1	904320	BELT ALIGNMENT BUSHING PLATE
25	1	904321	CARRIAGE SPACER
26	1	904323	PULLEY BELT IDLER

ITEM	QTY.	PART NO.	DESCRIPTION
27	3	904324	PULLEY BELT DRIVER
28	1	904611	DISCHARGE PLATE EFS-PRO
29	7	51338040	PTFE (TEFLON) BALL
30	16	102913B02	FHCSS SST 6-32 X .38
31	2	102732B03	SSSCPPT BLACK OXIDE 10-32 X .25
32	4	44748008	SHOULDER BOLT
33	6	102637B06	FHCS BLACK OXIDE 10-32 X 1.00
34	6	102966B06	SCREW SHOLDER SH/SS Ø.25 X 1.25
35	3	102911B01	FHCSS SST 4-40 X .25
36	6	102708B08	BHCS BLACK OXIDE 10-32 X 1.25
37	2	102708B03	BHCS BLACK OXIDE 10-32 X .50
38	2	102637B05	FHCS BLACK OXIDE 10-32 X .75
39	8	102732B04	SSSCPPT BLACK OXIDE 10-32 X .31
40	2	104308B02	E-TYPE, STEEL CLIP FOR 1/2 SHAFT

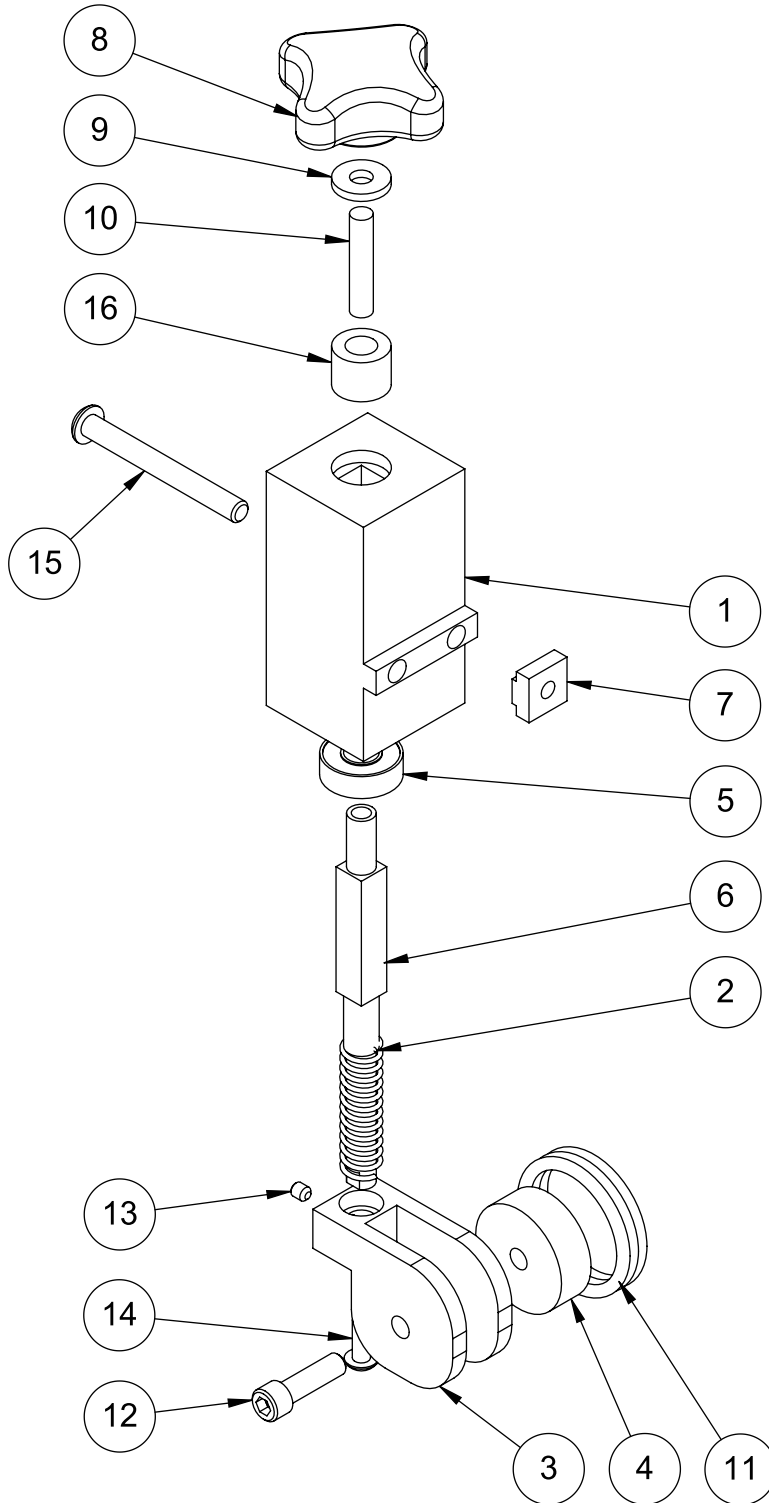
HOPPER ASSEMBLY
Assembly # 311-1318



HOPPER ASSEMBLY
Assembly # 311-1318

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904309	PLATE, GATE
2	1	311-1317	ASSY, GATE
3	1	904329	SLIDER BLOCK T-NUT
4	1	904515	MOUNT BLOCK
5	1	904312	PREGATE GUIDE RAIL
6	1	904307	HOPPER SIDE SUPPORT
7	1	904313	SIDE GUIDE
8	1	53500609	LABEL, WARN INJURY 2.7 X 1.4
9	1	102688B05	SHCS BLACK OXIDE 10-32 X .75
10	4	102957B02	BHCS SST 10-32 X .38
11	2	102688B07	SHCS BLACK OXIDE 10-32 X 1.00
12	2	102916B03	FHCS SSTL 10-32 X .50
13	1	102732B16	SSSCPPT BLACK OXIDE 10-32 X 2.50
14	2	102635B02	FHCS BLACK OXIDE 8-32 X .38
15	1	904497	SLIDER MOUNT OVER TOP BLOCK
16	1	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
17	1	904587	SPACER, 1/2 OD X .50 ID X 1.0 LG

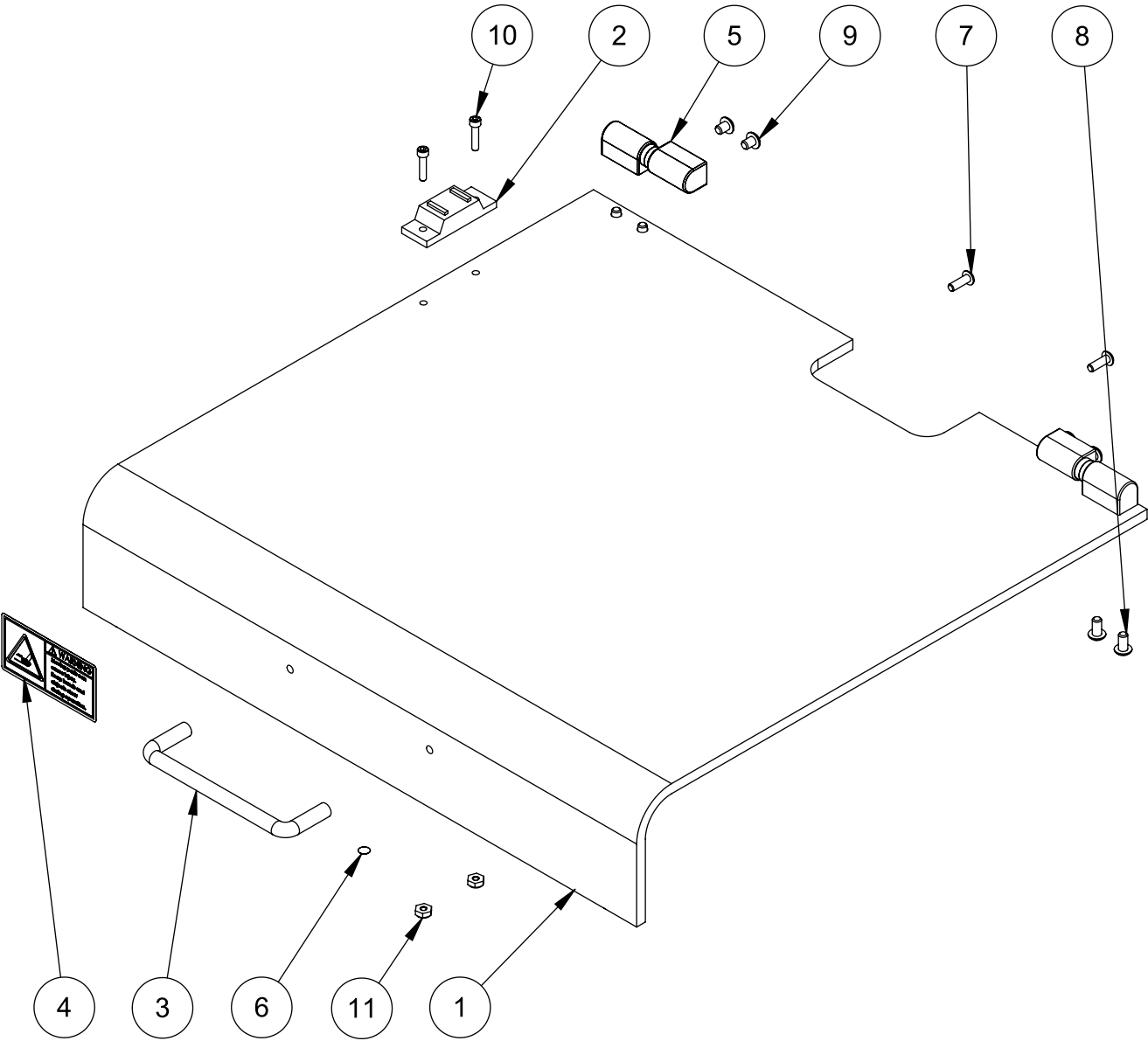
SEPARATOR ASSEMBLY
Assembly # 311-1317



SEPARATOR ASSEMBLY
Assembly # 311-1317

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904328	BLOCK, GATE SLEEVE
2	1	904898	SPRING, GATE
3	1	51805015	MOUNT, GATE
4	1	51805014	O RING SPOOL
5	1	23500095	BEARING BALL R6 .375 BORE
6	1	51745044	SHAFT, GATE LIFT
7	1	10631571RC	T-NUT, 1/4-20, X 5/16 SLOT
8	1	903748	KNOB, 4 LOBE WITH 1/4-20 THREADED INSERT
9	1	104771B04	WASHER, NEO .25ID X 5/8OD X 3/32THK.
10	1	903750	DOUBLE THREADED ROD 1/4-20 X 1/4-28
11	3	23500104	O RING, STANDARD GATE HDO
12	1	102689B06	SHCS BLACK/OXIDE 1/4-20 X .88
13	1	102729B02	SSSCPPT BLACK OXIDE 8-32 X .19
14	1	102708B03	BHCS BLACK OXIDE 10-32 X .50
15	1	903357B12	BHCS BLACK OXIDE 1/4-20 X 2.25
16	1	904583	SPACER, 5/8 ODX.344 IDX1/2 LG

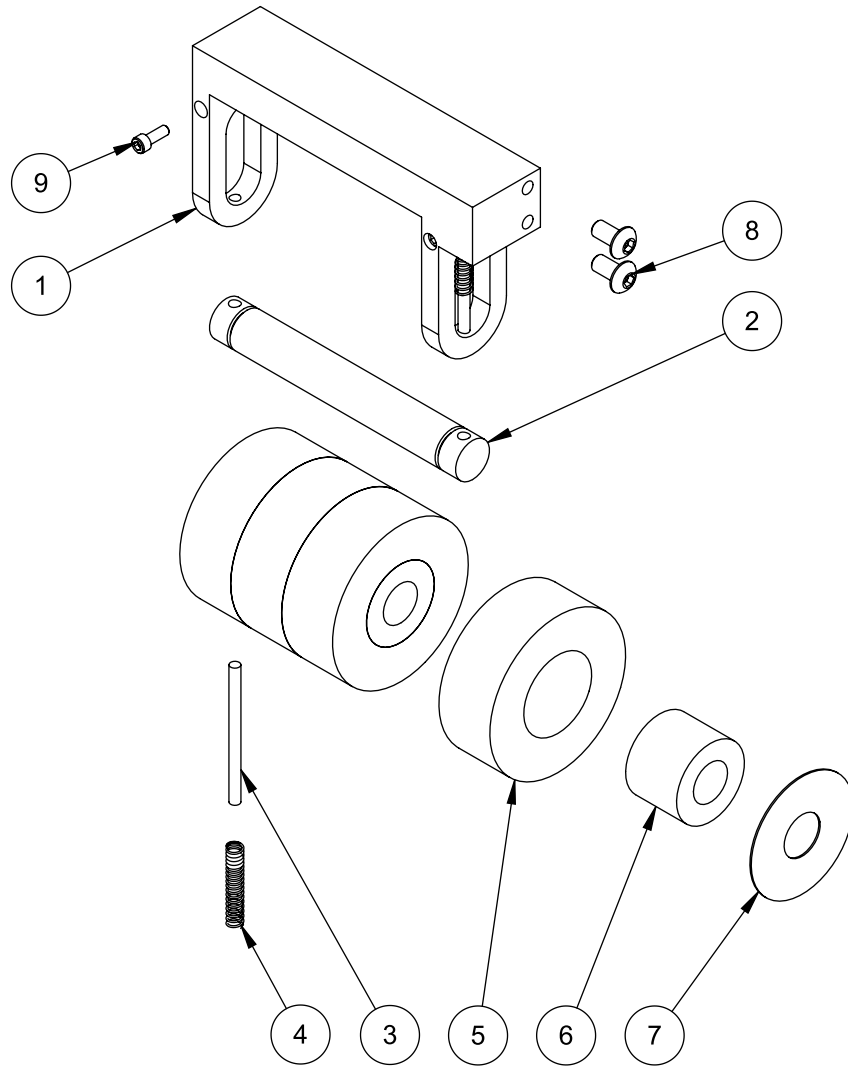
COVER ASSEMBLY
Assembly # 311-1431



COVER ASSEMBLY
Assembly # 311-1431

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904641	EFS-PRO COVER
2	1	904467	SURFACE MOUNT MAGNETIC CATCH
3	1	44841002	HANDLE, PULL
4	1	53500609	LABEL, WARN INJURY 2.7 X 1.4
5	2	904317	LIFT-OFF HINGE SET SCREW MOUNT
6	4	904469	RUBBER BUMPER .25DIA X .06 THK.
7	2	102955B03	BHCS SST 8-32 X .50
8	4	102956B02	BHCS SST 10-24 X .38
9	4	102956B01	BHCS SST 10-24 X .25
10	2	102932B04	SHCS SST 6-32 X .62
11	2	112156B02	HEX NUT NY-LOK ZP 6-32

NIP ROLLER ASSEMBLY
Assembly # 311-1319

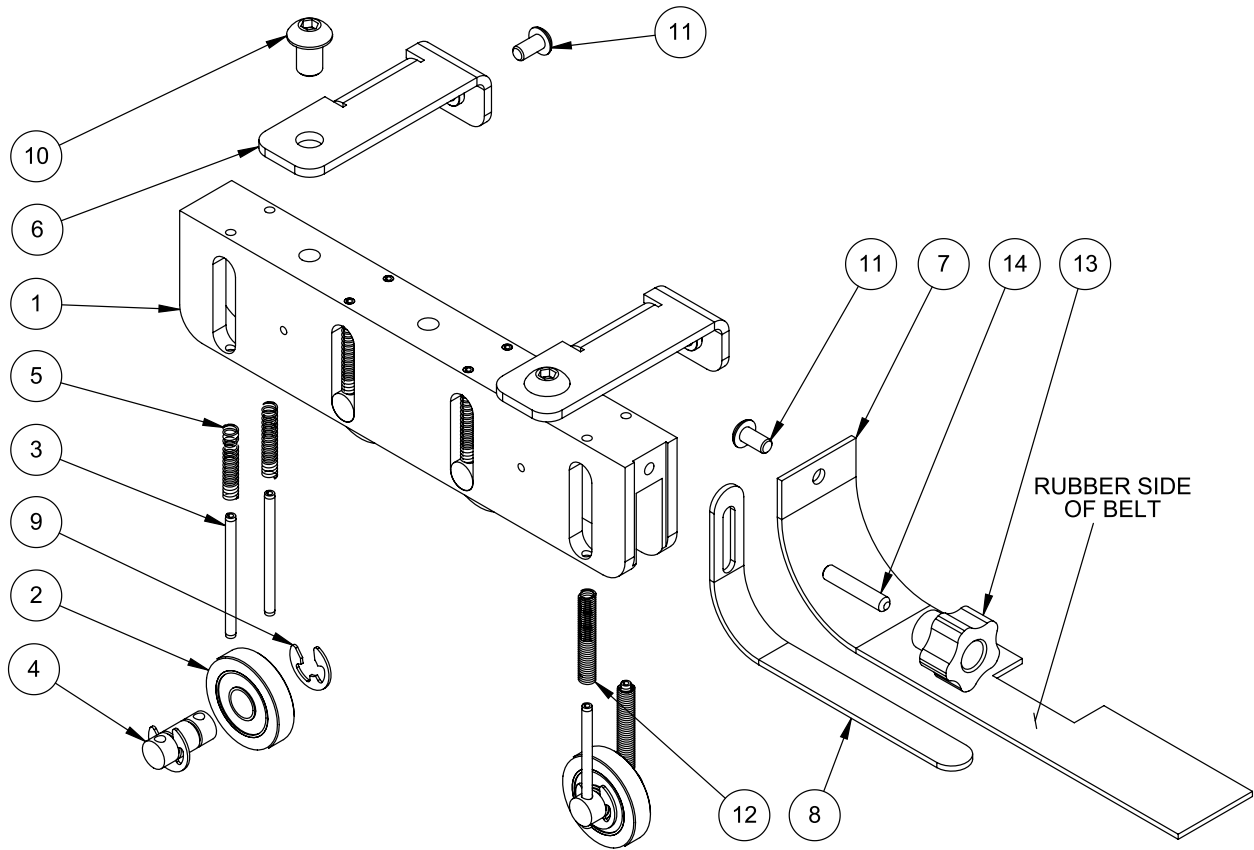


NIP ROLLER ASSEMBLY
Assembly # 311-1319

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904451	KNOCK DOWN ROLLER BLOCK
2	1	904452	KNOCK DOWN ROLLER SHAFT
3	2	51450005	DOWEL PIN .125 X 1.75
4	2	51277138	SPRING, HOLD DOWN MEDIUM
5	4	903880	ROLLER COVER, 30A DUR. 1.0 ID X 2.0 OD
6	4	119679B296	BEARING SLEEVE .50 ID X 1.00 OD X .75 LG
7	2	904498	PTFE WASHER .53ID X 1.5OD X .20TK
8	2	102957B02	BHCS SST 10-32 X .38
9	2	3327	SHCS BLACK OXIDE 4-40 X .31

HOLD DOWN ASSEMBLY

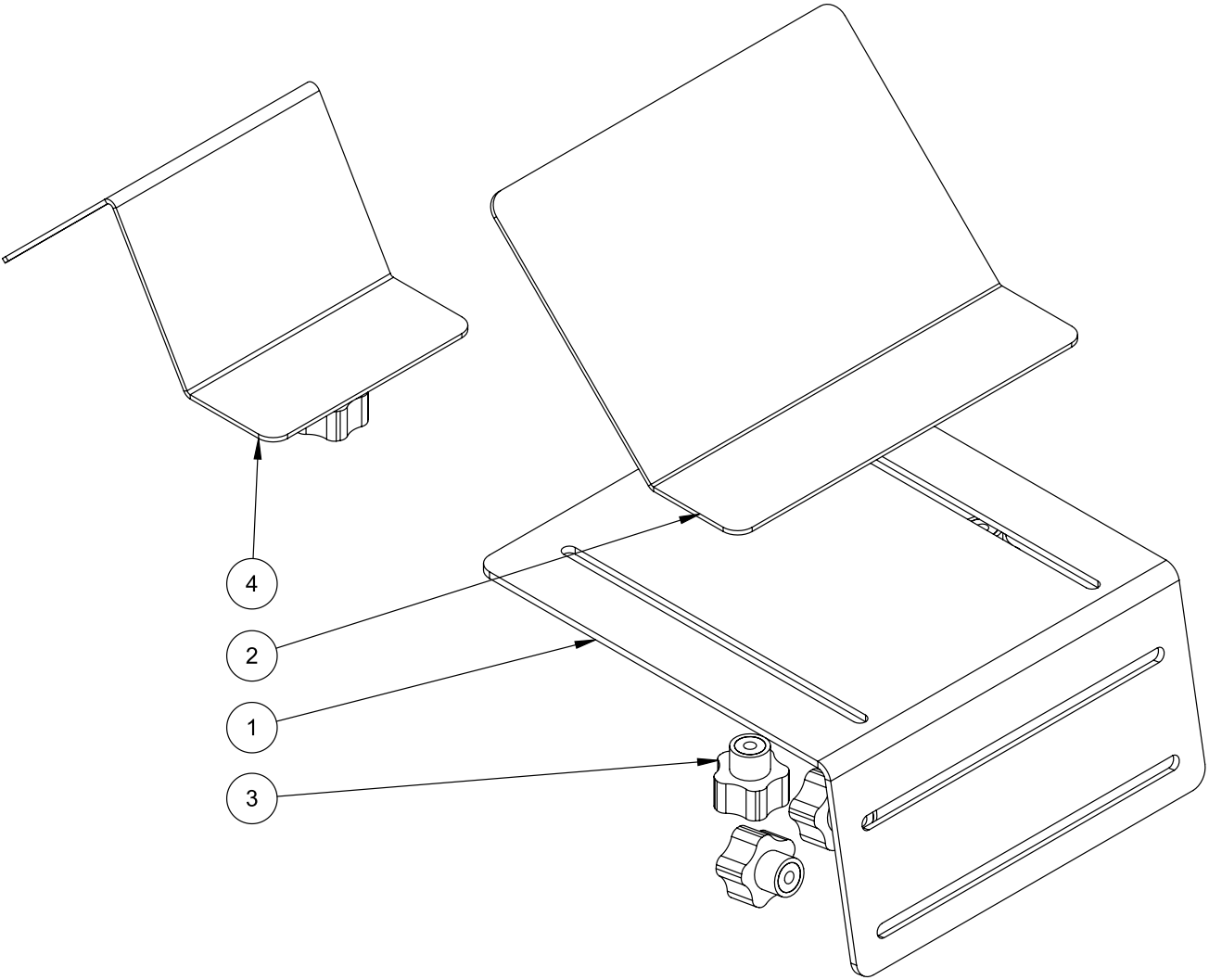
Assembly # 311-1323



HOLD DOWN ASSEMBLY
Assembly # 311-1323

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	903980	HOLD DOWN LONG BLOCK SINGLE SKATE
2	4	44380039	ROLLER, HOLD DOWN
3	8	904427	SPRING PIN, 1/8 DIA X 1.75 SST
4	4	903843	SHAFT, HOLD DOWN SINGLE SKATE
5	6	51277138	SPRING, HOLD DOWN MEDIUM
6	2	904318	HOLD DOWN BRACKET
7	1	904504	HOLD DOWN BELT
8	1	903981	SINGLE SKATE KNOCK DOWN
9	8	104308B04	E-TYPE, STEEL CLIP FOR 3/8 SHAFT
10	2	102960B03	BHCS SST 5/16-18 X .50
11	3	102957B02	BHCS SST 10-32 X .38
12	2	51277090	SPRING, HOLD DOWN HEAVY
13	1	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
14	1	102732B11	SSSCPPT BLACK OXIDE 10-32 X 1.00

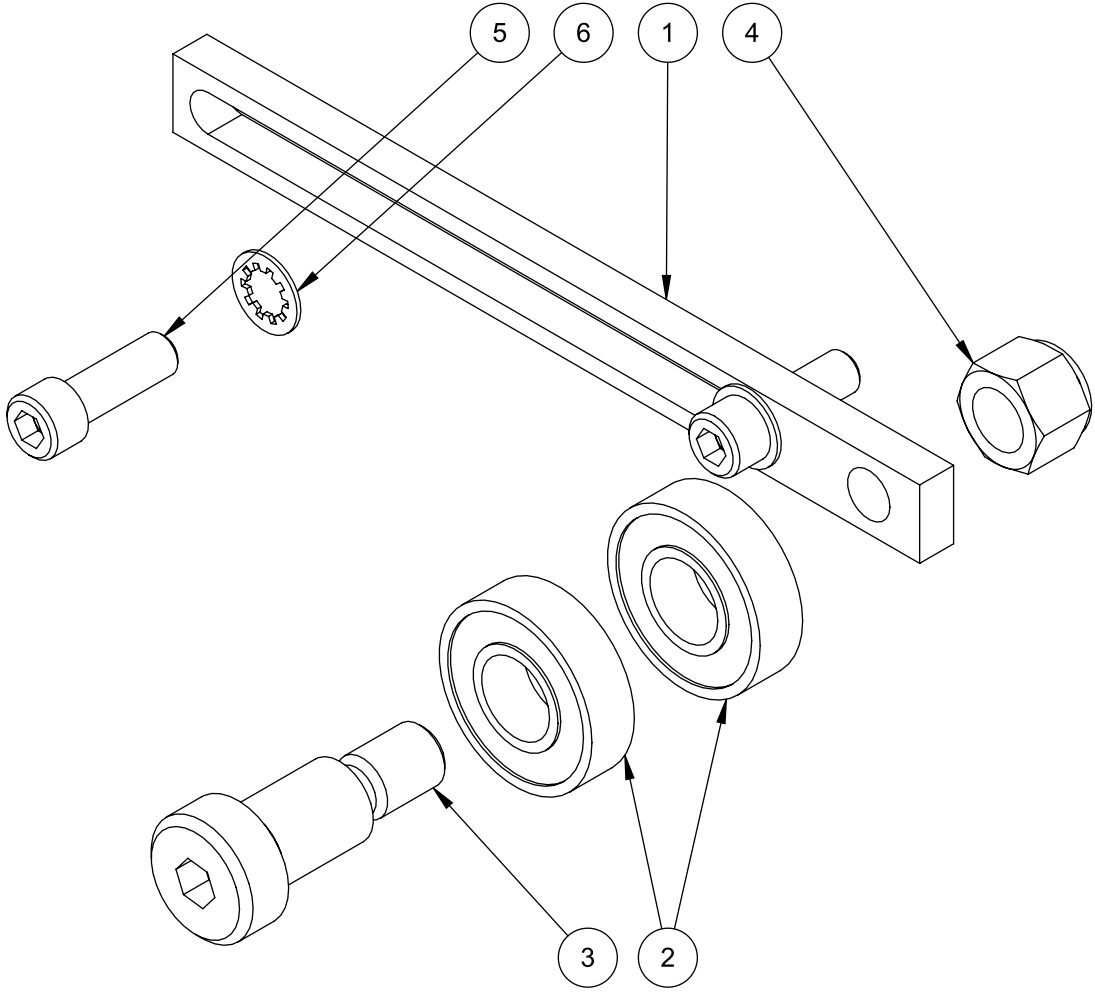
WEDGE ASSEMBLY
Assembly # 311-1324



WEDGE ASSEMBLY
Assembly # 311-1324

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904349	WEDGE BRACKET
2	1	904348	WEDGE
3	5	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
4	1	904506	WEDGE SMALL

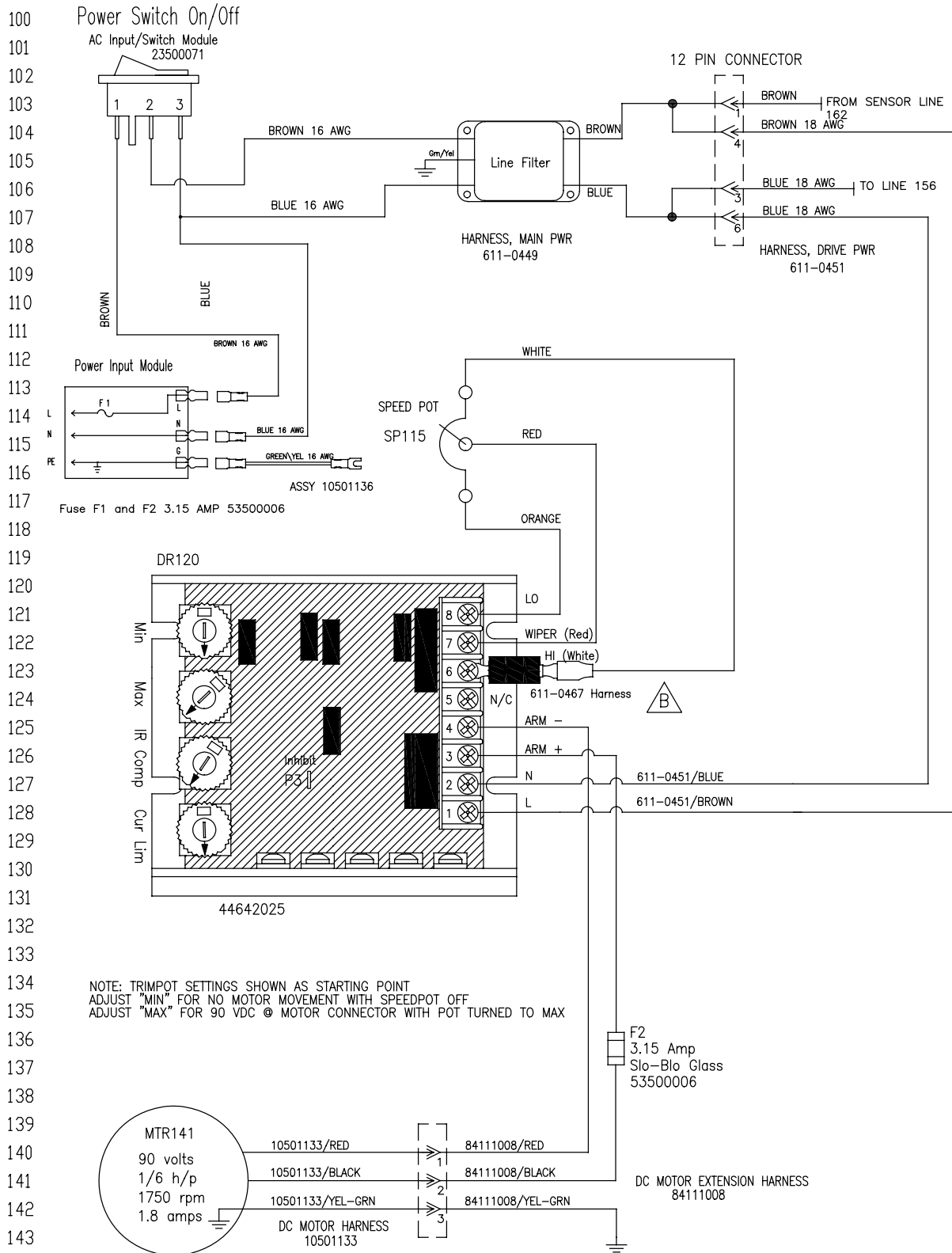
BELT TENSIONER ASSEMBLY
Assembly # 311-1347



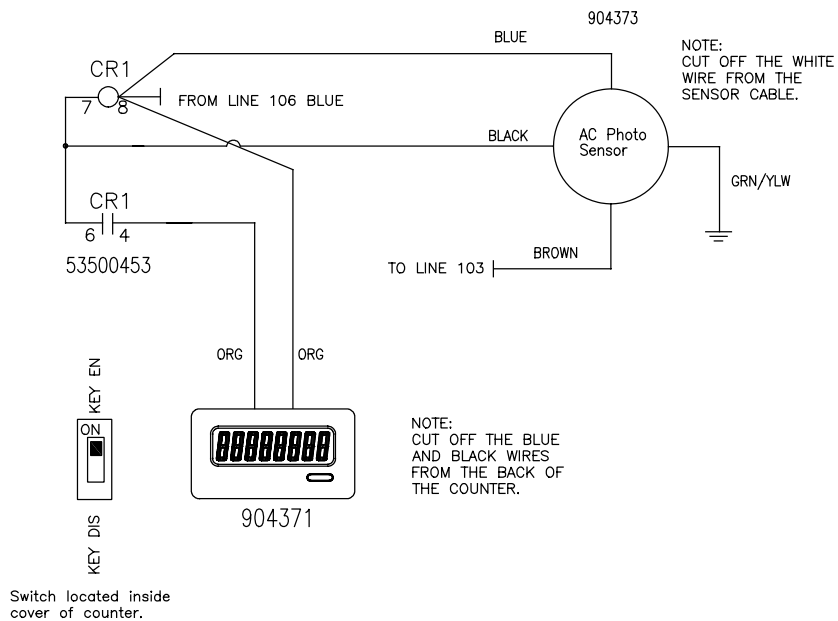
BELT TENSIONER ASSEMBLY
Assembly # 311-1347

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	904431	BELT TAKE-UP BRACKET
2	2	23500094	BEARING BALL R8 .500 BORE
3	1	102720B04	BOLT SHOULDER .50 X .75
4	1	116691B07	HEX NUT NY-LOK SST 3/8-16
5	2	102938B05	SHCS SSTL 1/4-20 X .75
6	2	103239B04	LOCK WASHER INTERNAL ZP 1/4 SCREW

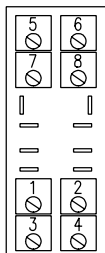
7 Electrical Components



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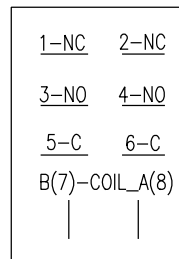


DETAIL: Relay Base



53500454

Relay Base Configuration



ENVELOPE SEALING SYSTEM

Parts Manual

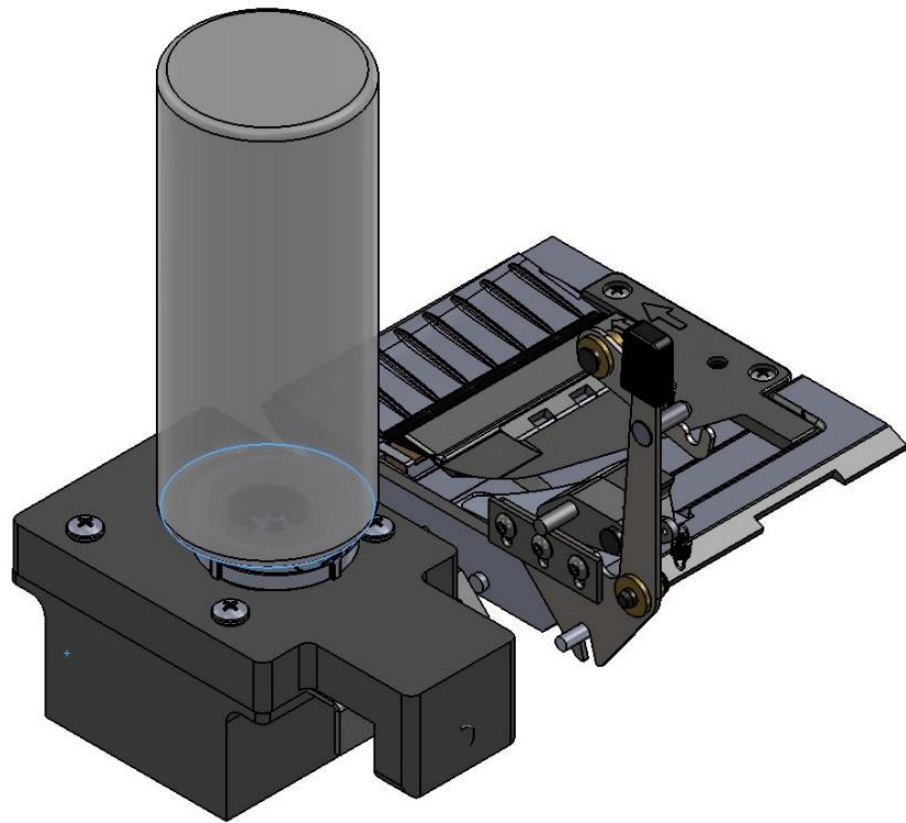


TABLE OF CONTENTS

Envelope Sealing System Assembly

Assembly Tray Moistening	2
Assembly Tray Moistening Fig. 1.....	3
Assembly Actuating Lever.....	4
Assembly Actuating Lever Fig. 2.....	5
Assembly Reservoir Tank.....	6
Assembly Reservoir Tank Fig. 3.....	7
Assembly Bottle Reservoir Fig. 4.....	8
Assembly Tongue Env. Flap Std Fig. 5.....	9
Assembly Tongue Env. Flap Slotted Fig. 6.....	10

ASSEMBLY MOISTENING TRAY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	950520	TRAY MOISTENING	1
2	950566	WICK MOISTENING FELT	1
3	950507	CAGE MOISTENING FELT	1
4	950522	TONGUE ENVELOPE FLAP	1
5	950524	BRUSH CARRIER	1
6	950574	PIN PIVOT BRUSH CARRIER	1
7	950526	ROCKER ENVELOPE	1
8	950564	BRUSH MOISTENING	1
9	8066	BARB FITTING ¼" ID HOSE	1
10	950598	TUBING POLY ¼ X 3/8 X 3"	1
11	950592	SCREW PAN HD SS SELF TAPPING	3

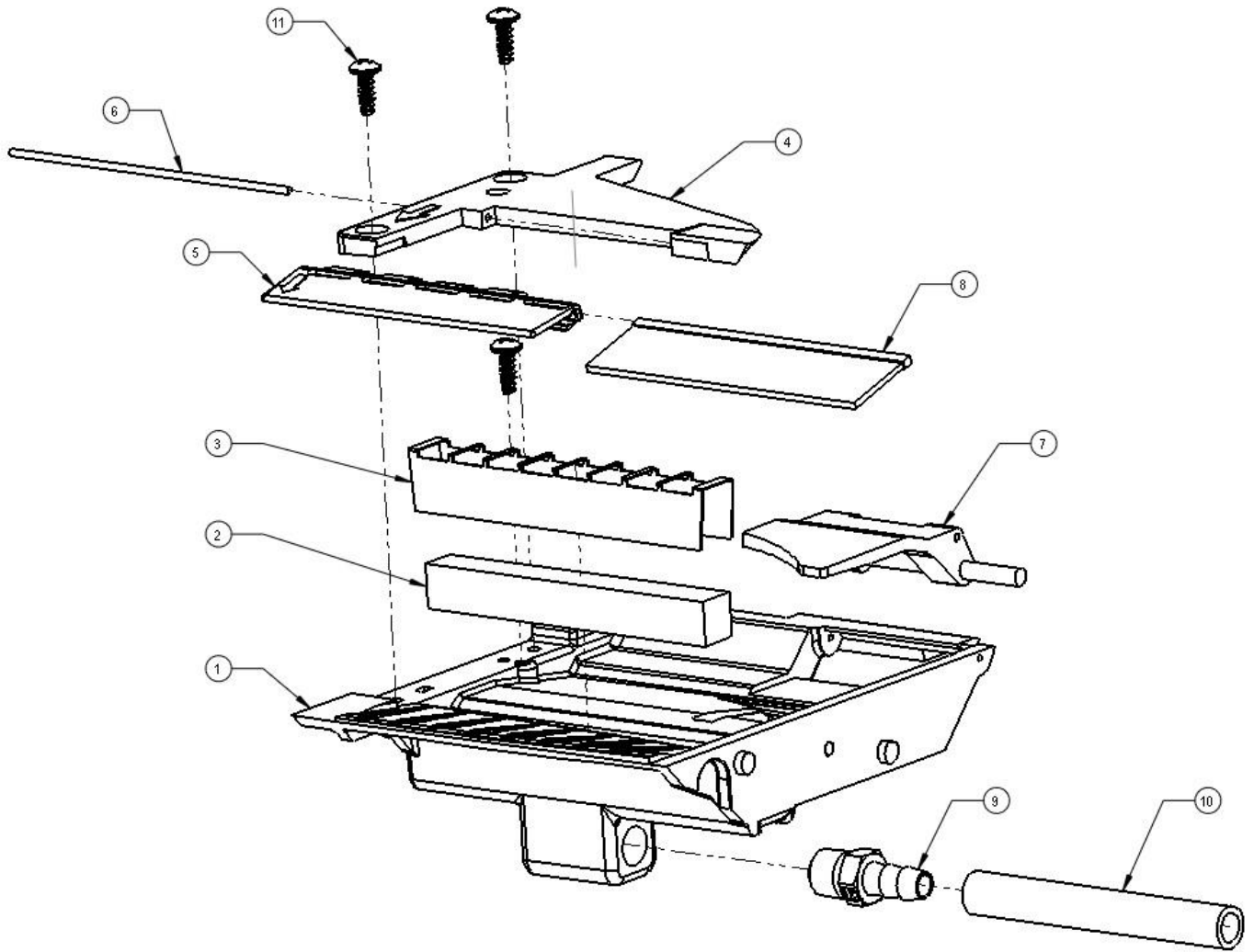


FIG. 1 Assembly Moistening Tray

Assembly Actuating Lever

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	950505	LEVER BRUSH ACTUATING	1
2	950588	BUSHING FLANGED	2
3	950570	PIN PIVOT MACHINED	3
4	950572	PIN DETENT	1
5	950503	ARM ACTUATING LEVER	1
6	950532	KNOB LEVER	1
7	950528	GUIDE HOLD DOWN	1
8	950586	BUSHING SLEEVE	1
9	950593	5-40 X ¼ FHS BLK	1
10	950504	PLATE ARM ADJUST	1
11	950580	SPRING EXTENSION LONG	1
12	950578	SPRING EXTENSION SHORT	1
13	950595	6-32 X ¼ BHC SS	3
14	950513	PLATE GUIDE HOLD-DOWN	1

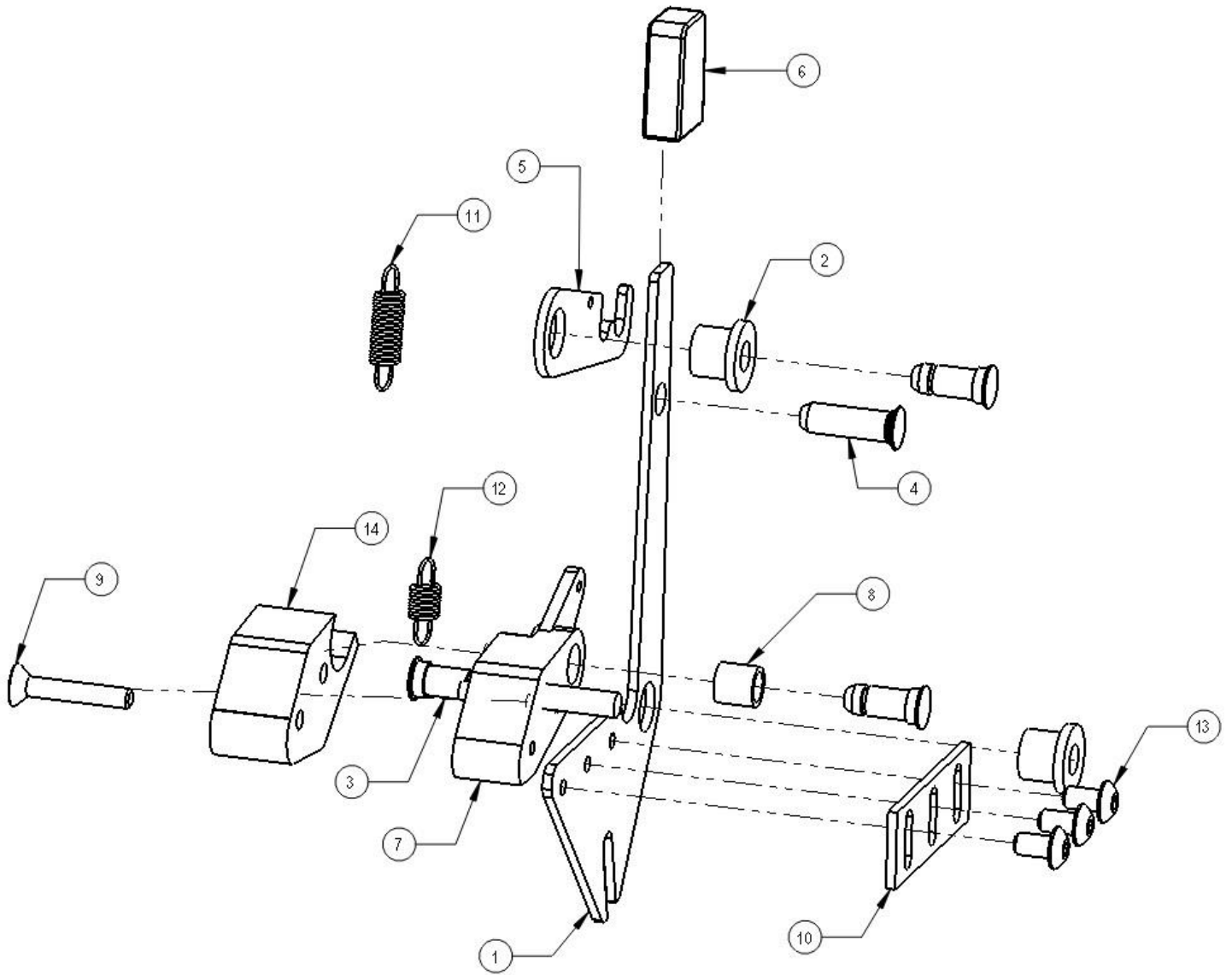


FIG. 2 Actuating Lever Sub Assembly

Reservoir Tank Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	950550	TANK RESERVOIR	1
2	950511	PLATE CAP HOLDER	1
3	950552	TOP RESERVOIR	1
4	950576	SPRING COMPRESSION	1
5	8066	BARB FITTING ¼" ID HOSE	1
6	950594	10-32 X ½" SHC SS	4
7	950596	10-24 X 1" BHC SS	1

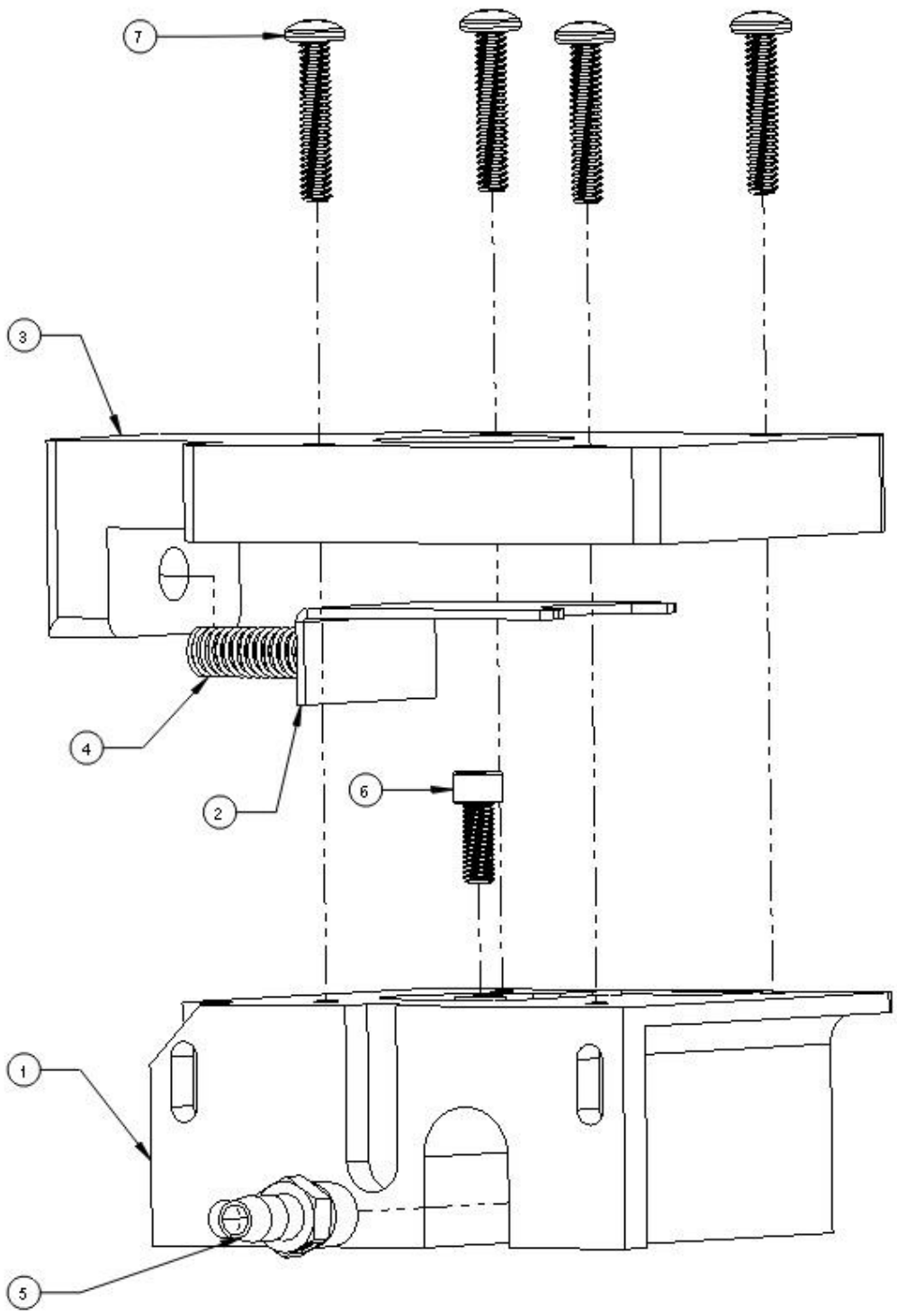


FIG. 3 Reservoir Tank Assembly

Reservoir Bottle Assembly

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	950560	CAP WATER BOTTLE	1
2	950562	BOTTLE WATER	1

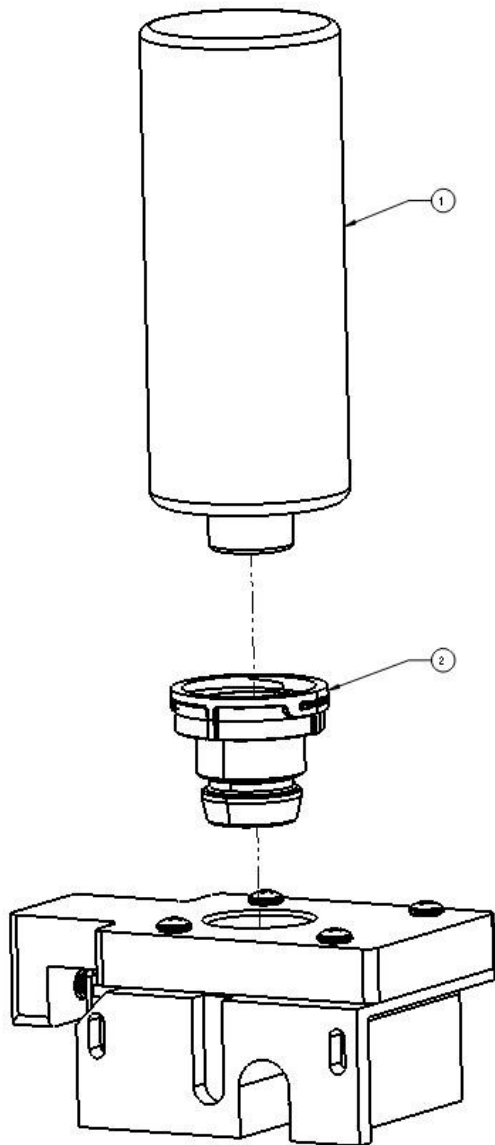


FIG. 4 Reservoir Bottle Assembly

Assy. Tongue Env. Flap Std.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
FIG 5	951522	ASSY TONGUE ENV FLAP STD	
1	950522	TONGUE ENVELOPE FLAP	1
2	950564	BRUSH MOISTENING 3"L	1
3	950525	BRUSH CARRIER	1
4	950574	PIN PIVOT BRUSH CARRIER	1

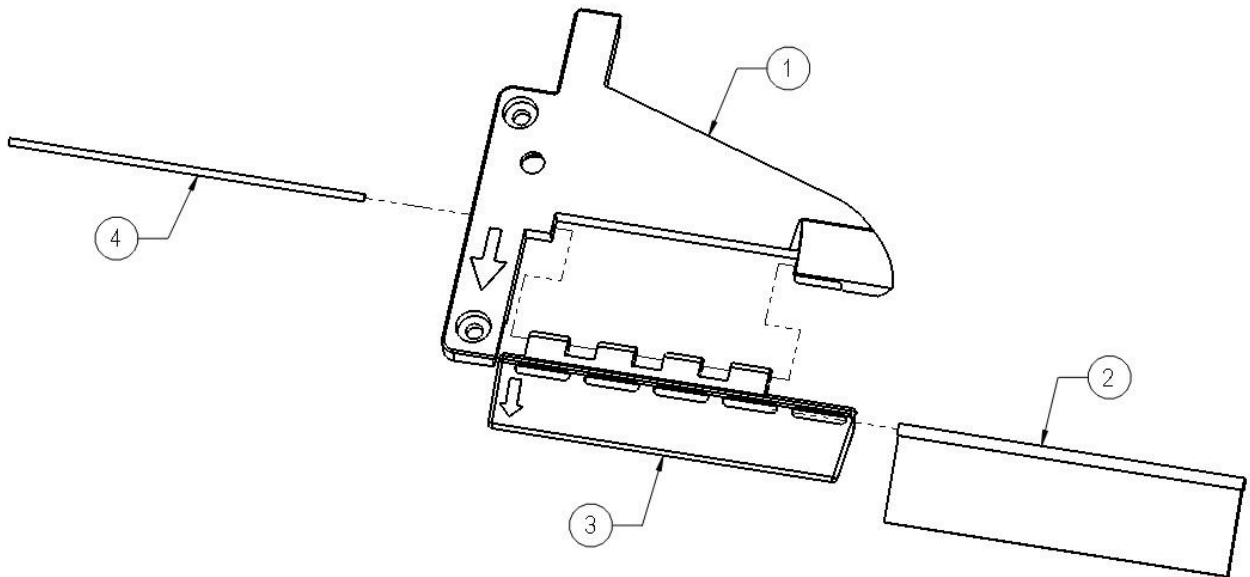


FIG. 5 Assy. Tongue Env. Flap Std.

Assy. Tongue Env. Flap Slotted

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
FIG 6	951523	ASSY TONGUE ENV FLAP SLOTTED	
1	950522	TONGUE ENVELOPE FLAP	1
2	950565	BRUSH MOISTENING 3/4"L	1
3	950525	BRUSH CARRIER SLOTTED	1
4	950574	PIN PIVOT BRUSH CARRIER	1

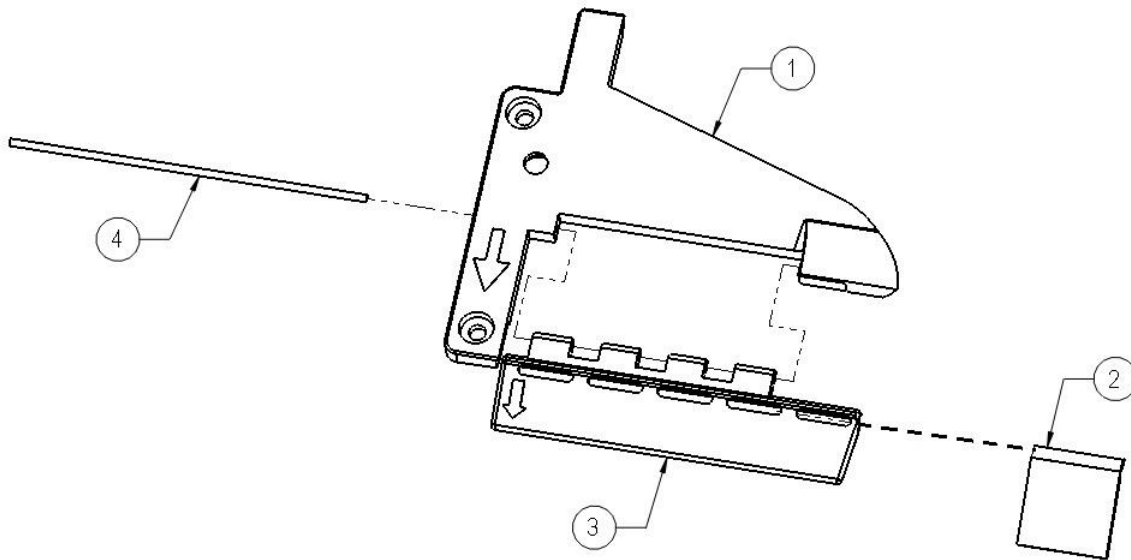


FIG. 6 Assy. Tongue Env. Flap Slotted



315 27th Avenue NE · Minneapolis, MN 55418 · USA
TEL: (763) 502-0000 · FAX: (763) 502-0100
EMAIL: service@streamfeeder.com
WEB: www.streamfeeder.com

