

PACIFIC LABELING & INTEGRATION



# Jetfeeder

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## Manual





SUPPORT?

PACIFIC LABELING & INTEGRATION



4189 Santa Ana, Suite C · Ontario, CA 91761 · USA

Tel: (909) 390-5631 · Fax: (909) 390-5150

Email: [info@pacificlabeling.com](mailto:info@pacificlabeling.com)

Web: [www.pacificlabeling.com](http://www.pacificlabeling.com)



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# Before You Begin

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## 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

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## 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.

# Specifications

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**Maximum Product Size:** ..... 14 W x 18 L in (355 x 457 mm)

**Minimum Product Size:** ..... 2 W x 3 L in (51 x 76.2 mm)

**Min/Max Product Thickness:** ..... .003 -1.0 in (.07 - 25.4 mm)

**Belt Speed:** ..... 7800 in/min (19,812 cm/min)

**Drive:** ..... DC motor

**Electrical Requirements:** ..... 115/230vac, 50/60Hz, 3A

**Multiple Voltage Interface Relay:** ..... 24vac, 115vac, 5vdc, 12vdc, 24vdc

**Weight:** ..... 47 lbs. (21.3 kg)

# Ce CertifiCation

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

Thiele Technologies - Streamfeeder hereby declares that this product is in conformance with the following standards:

**Machinery Directive 98/37/EC**

**Low Voltage Directive IEC/EN/CSA/UL 60950**

**Emissions - EN55014-1**

**Immunity - EN55014-2**

The technical file for these products is maintained at the corporate headquarters of Thiele Technologies - Streamfeeder in Minneapolis, Minnesota USA.

# 1 About the Machine

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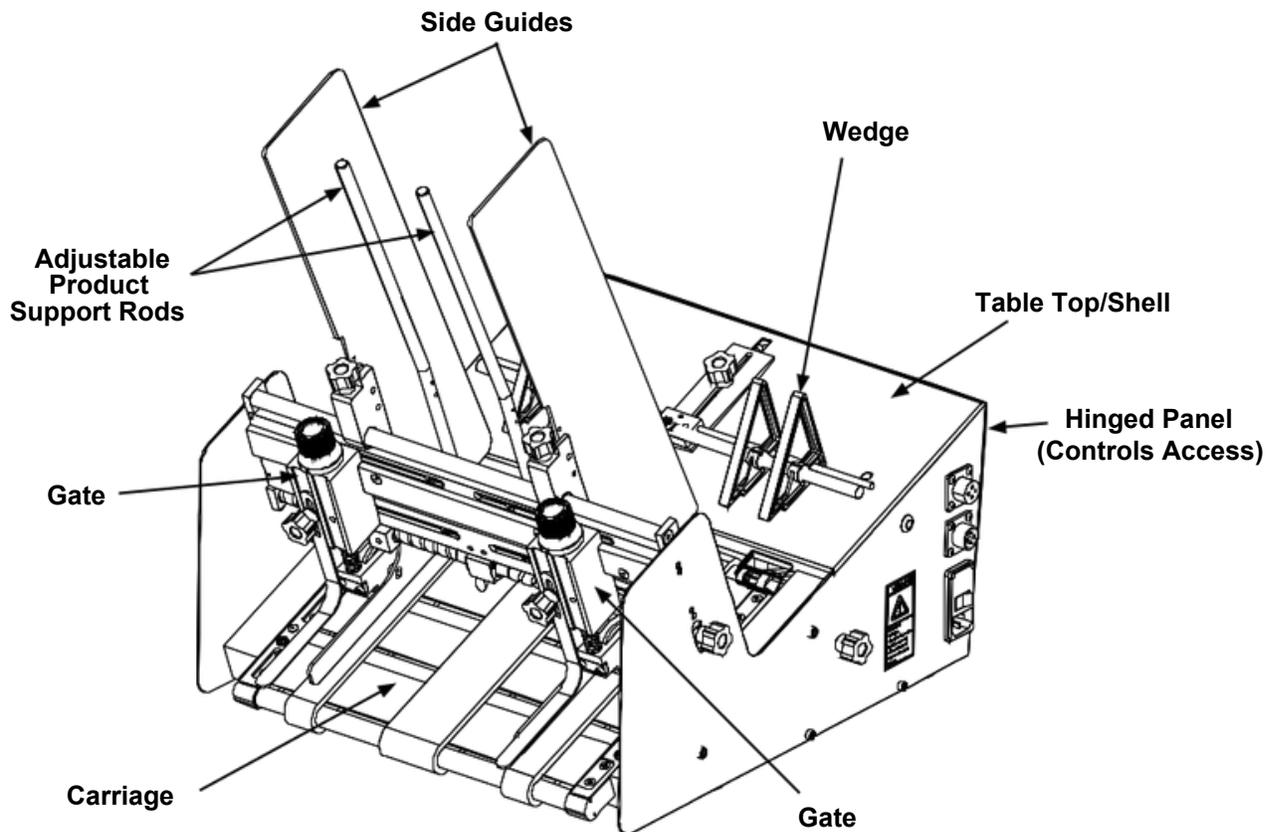
## Features

The V-1400IJ is designed for reliability, flexibility, and ease of use with a variety of vacuum and non-vacuum bases.

All parts required for setup, loading, feeding, and easy operator control are combined into one compact unit.

Review the *main assemblies* below to become familiar with names and locations of feeder parts and adjustments. This will help to prepare you for initial setup.

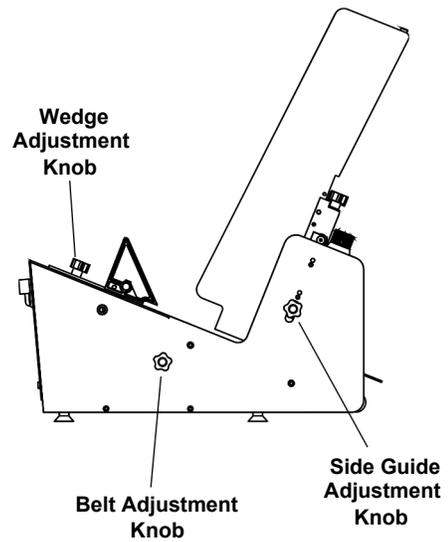
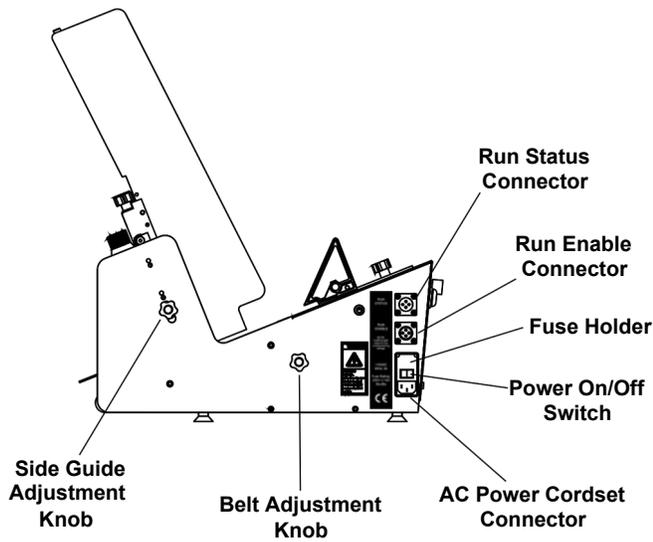
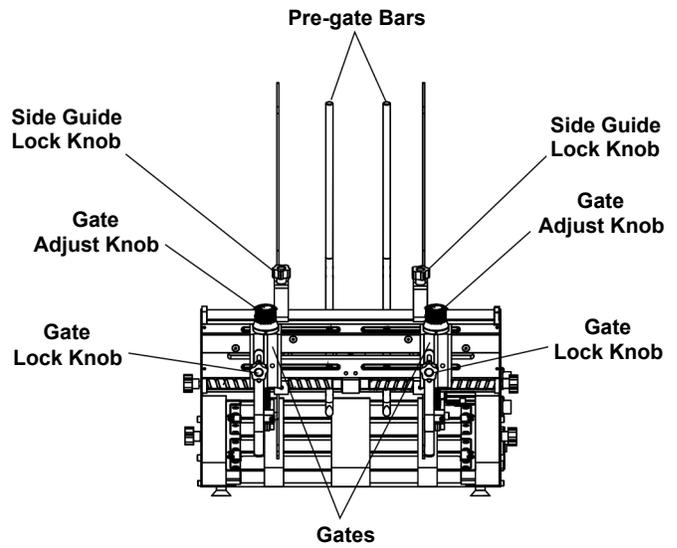
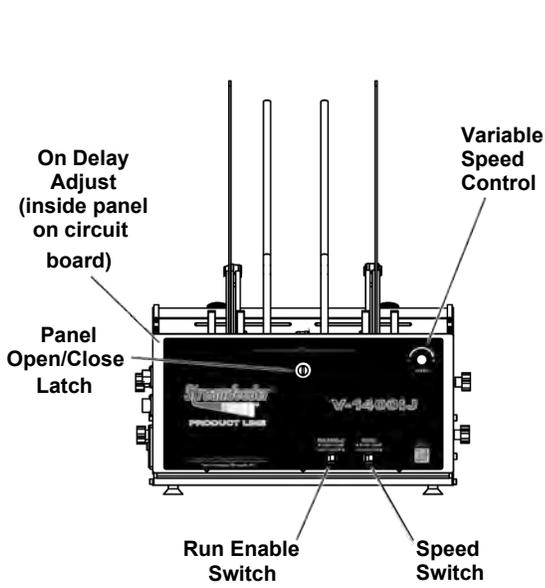
## Main Assemblies



## Main Assemblies Feature Descriptions

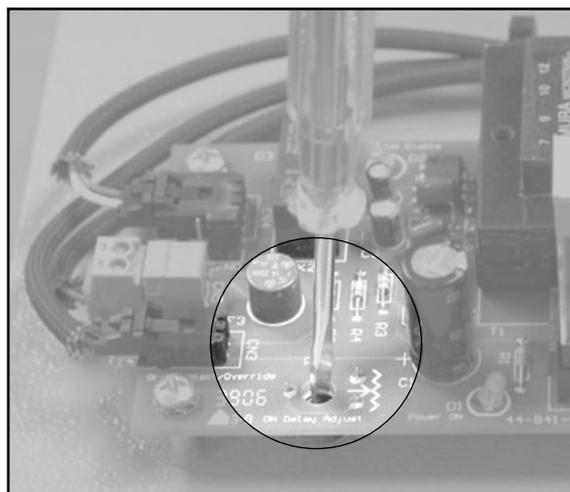
Feature	Description
<b>Side guides</b>	Single knob adjust (one on each side) allows lateral adjustment from each side for different size product.
<b>Side guide adjustments</b>	Dual-knob design allows you to move side guides together or apart for different size product. Can be positioned equally or offset. <i>(Note: Single-knob design also available.)</i>
<b>Gates and adjustments</b>	Single or double gates mounted above the carriage housing the feed belts. This device provides a curvature to help preshingle stacked product. When properly adjusted, a clearance is created to help singulate and feed product.
<b>Adjustable Product Support Rods</b>	Rods can be adjusted laterally for support of wider products.
<b>Wedge and adjustments</b>	Lifts the product to keep it off the table top, reduces excessive contact with the feed belts, and helps push the product against the curvature of the gate assembly. To achieve proper lift, adjustment wing-nuts and locking levers allow you to slide the wedge to various positions and angles.
<b>Shell</b>	One piece shell for mounting of all sub-assemblies and components.
<b>Easy access to controls</b>	Located in rear of feeder. Allows for easy assembly and servicing of control and other electronic components.
<b>Removable carriage</b>	Houses the feed belts which provides the friction and motion necessary to pull individual product from the bottom of the stack and through the gate assembly. Easy to remove for feed belt replacement.
<b>Lateral feed belt positioning</b>	Single knob adjust (one on each side) allows for two outside belts to be adjusted laterally depending on product size and feeding characteristics.

# Control Features



## Control Features Descriptions

Feature	Description
<b>Variable speed control</b>	This dial switch (labeled <b>Speed</b> ) allows the feeder speed to be synchronized with a vacuum or non-vacuum base. Turning counter-clockwise decreases speed; clockwise increases speed. <i>Note: Feeder motor stops if turned completely counter-clockwise.</i>
<b>Run Enable switch</b>	This slideswitch allows you to use the feeder “stand- alone” or with the run enable input interface.
<b>Speed switch</b>	This slideswitch allows you to
<b>AC power cordset connector</b>	Cordset plugs into this connector to provide feeder with power from a grounded and fused outlet.
<b>Power On/Off</b>	Toggles AC power On or Off.
<b>Fuse holder</b>	Contains two replaceable 5-Amp, 5x20 mm time delay fuses. <i>IMPORTANT: Always make sure power module is replaced exactly as removed so that “115” is always visible on 115V models and “230” is always visible on 230V models. Failure to follow this caution can result in damaged electrical parts.</i>
<b>Run Status connector</b>	An interface available for host systems. Provides feedback to host system whether the feeder is running or not.
<b>Run Enable connector</b>	This 4-pin connector is used to carry start/stop signals from a vacuum or non-vacuum base to the feeder.
<b>On delay adjust</b>	<b>Located on circuit board on inside of panel. See photo below.</b> Used to delay (or synchronize) feeder startup with base startup. Range is adjustable from 0 to 12 seconds (factory set at 0 seconds).



**On Delay Adjustment**

# 2 Installing the Machine

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This section provides information on installing the V-1400IJ onto a vacuum or non-vacuum transport base.

Information for a particular application typically includes procedures for basic parts removal, feeder mounting and alignment, and cable connections for power and control interface. *Information that relates to specific adjustments you must make to feeder prior to startup and operation is found in Section 3, "Preparing for Operation."*



**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 startup and moving parts which can cause serious injury.**

**Do not attempt feeder installation 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 turning on the feeder or making initial adjustments until all parts are secured. Failure to do so can cause damage to equipment.**



*Included with your V-1400IJ 230V feeder is an Allen Wrench Set (P/N 23511CC1). These tools are designated for Service Personnel only.*

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## Vacuum Base Installation for Shuttle Feed Bases

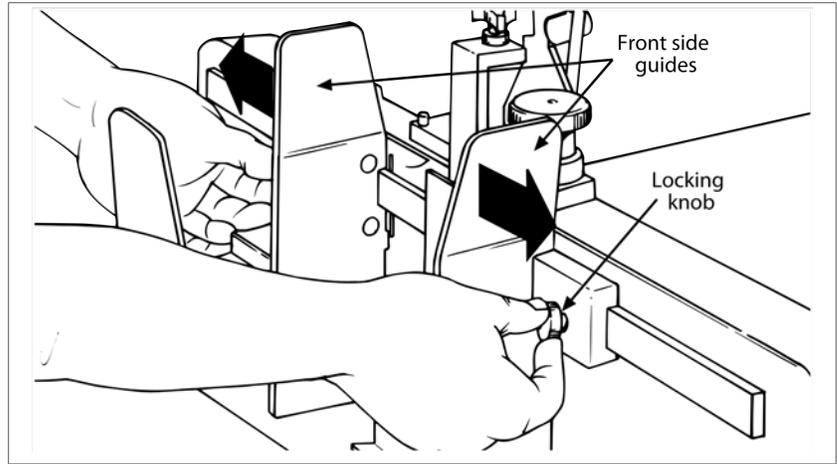
Installation of the V-1400IJ onto various types of vacuum and non-vacuum bases is a relatively simple procedure. Several minor modifications to the vacuum base are required prior to mounting, wiring, and aligning the feeder.

To install the feeder onto a shuttle feeder vacuum base, perform the following steps:

- 1: Repositioning front side guides
- 2: Removing back jogging plate/back hopper guide
- 3: Raising hopping rollers
- 4: Disabling the shuttle
- 5: Initial positioning of feeder
- 6: Providing AC power to feeder
- 7: Connecting run enable input
- 8: Checking product discharge from feeder

## STEP 1: Repositioning Front Side Guides

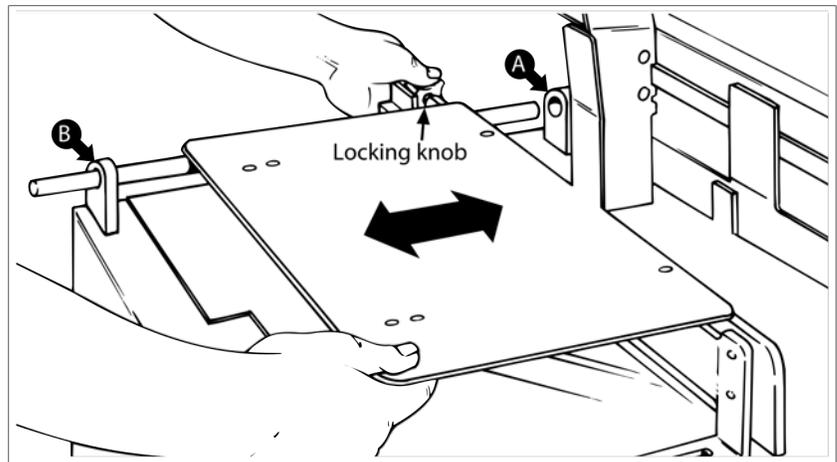
1. Loosen locking knobs at both side guides.
2. Slide each side guide to the outermost position. Do not lock in place.



Front Side Guides Being Repositioned

## STEP 2: Removing Back Jogging Plate/Back Hopper Guide

1. Loosen each of the setscrews at the two shaft housing assemblies A and B.
2. Slide shaft end closest to the vacuum base gate out of housing A (with jogging plate/hopper guides still attached). Slide shaft back far enough on housing B to allow removal of jogging plate/hopper guides.
3. Loosen locking knob and slide jogging plate/back hopper guide off of shaft and away from the surface of the vacuum base.
4. Return shaft end to housing B. Lock setscrews in both housing assemblies.



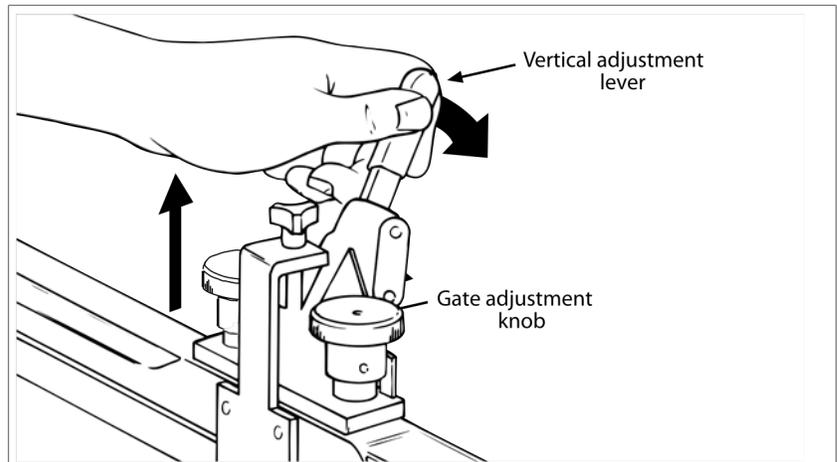
Back Jogging Plate/Back Hopper Guide Removal

## STEP 3: Raising Hopping Rollers



*If additional control of material is required during feeding, you may choose to keep the base's hopping roller assembly in the down (or normal) position.*

1. Locate the gate adjustment knobs and turn completely in a clockwise direction to raise hopping rollers.
2. Then, locate the vertical adjustment lever on the hopping rollers assembly and push down all the way. This will raise the feed rollers to highest vertical position possible, thus making for maximum clearance.



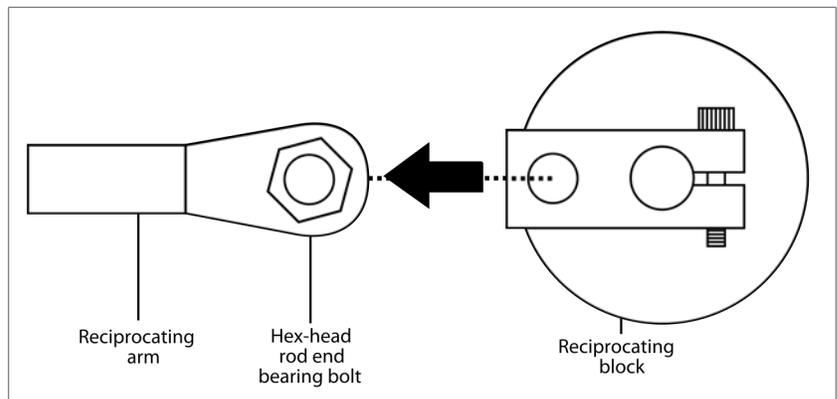
Using the Adjustments to Raise Hopping Rollers

## STEP 4: Disabling the Shuttle



To prevent any accidental startup of shuttle motor and to eliminate the hazard of moving parts, you can prevent accidental startup by either disconnecting vacuum base from AC power at the outlet, or you can remove the internal AC power fuse (located behind the access door of the vacuum base).

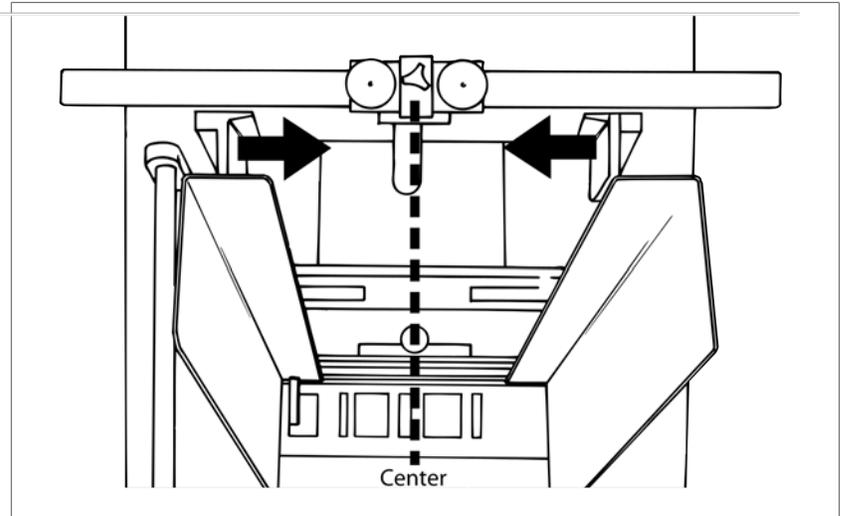
1. Remove side access panel from vacuum base enclosure.
2. Locate the reciprocating arm and reciprocating block directly beneath the underside of shuttle.
3. Using a box wrench, remove the hex-head rod end bearing bolt holding the reciprocating arm to the reciprocating block.
4. Once the bearing bolt is removed, the reciprocating arm is effectively disconnected. As the shaft is connected to the shuttle base plate on the other end, simply allow the shaft to hang in-position, with no further disassembly.
5. Make sure the base plate of shuttle is all the way forward (toward the vacuum base gate).



Disabling the Shuttle from Inside the Access Panel

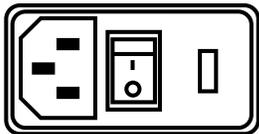
## STEP 5: Initial Positioning of Feeder

1. Lift the feeder onto the top plate of the vacuum base and slide forward toward the vacuum base gate.
2. Center the feeder between the two side guides as you position the feeder fully forward. To verify centering, sight down the center of the feeder gate, making sure it is in-line with the vacuum base gate.
3. Trap the feeder in-between the vacuum base side guides by sliding each in toward the side plates of the feeder until they gently touch. Tighten side guide knobs to secure in position.



Positioning the Feeder on the Vacuum Base

## STEP 6: Providing AC Power to Feeder



### IMPORTANT

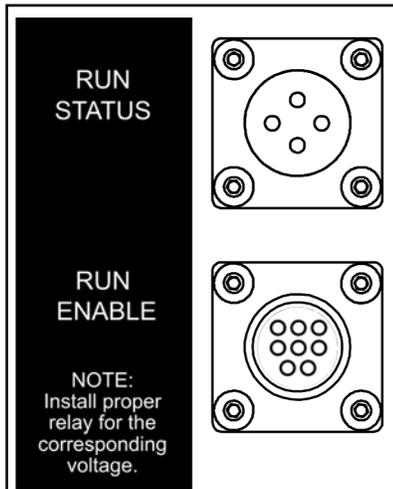
*Please verify that the voltage shown at the power inlet module matches the incoming voltage from the power source.*

1. Connect IEC320 end of power cord to the feeder (at the power inlet module).
2. Connect three-prong end to nearest AC voltage power source.

## STEP 7: Connecting Run Enable Input

### IMPORTANT

*This procedure should be performed only by a qualified technician.*



Run Status/Enable Connectors

Using the run enable cables supplied for host interface applications:

#### Dry Contact Run Enable

1. Ensure power is not applied and power cord is disconnected from feeder.
2. Connect the run enable cable to the top male eight-pin threaded connector on the feeder.
3. At the host equipment, locate start/stop control circuit.
4. Route run enable input cable from the feeder to the host system.
5. Interface the leads of the interface cable to the host start/stop circuit.
6. Connect power cord to feeder.

#### AC/DC Run Enable

1. Ensure power is not applied and power cord is disconnected from feeder.
2. Connect the run enable cable to the bottom female eight pin threaded connector on the feeder.
3. At the host equipment, locate start/stop control circuit.
4. Determine the exact run input voltage required by checking host start/stop control circuit.
5. Interface the leads of the interface cable to the host start/stop circuit.
6. The appropriate coil relay must be installed into the feeder. To do this, carefully open panel door.
7. Locate K1 relay slot on the control board and insert the appropriate relay from the supplied kit (P/N 311-0090). Close panel door on the feeder. (See electrical diagram).
8. Connect power cord to feeder. As product leaves the feeder gate cylinder, the trailing edge must be under the hold-down as the leading edge is entering the vacuum base transfer section. *In other words, there must be a good transfer of product from the feeder hold-down to the vacuum base transfer section.*

#### Run Status Signal

This is a configurable dry contact used to monitor the feeder's status.

The host equipment will connect to the green wire and the red wire, which are located in both run enable cable sets.

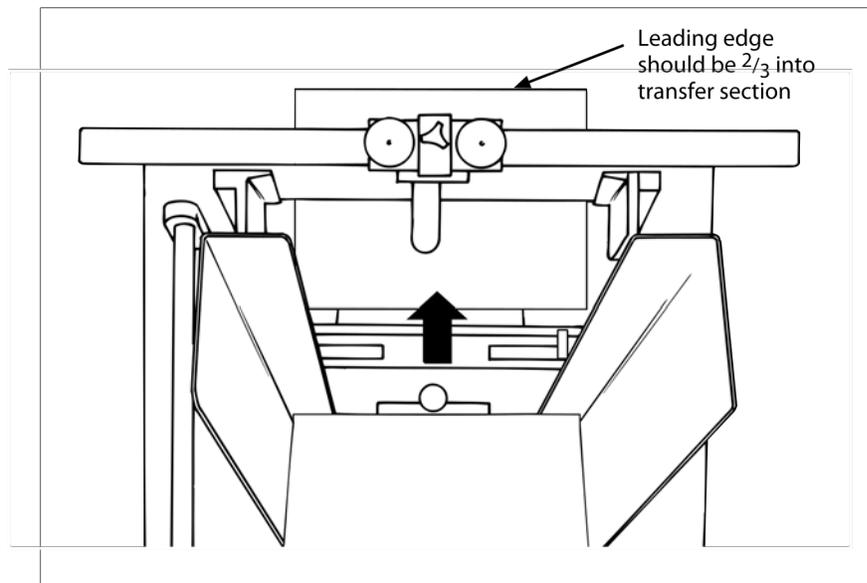
## STEP 8: Checking Product Discharge from Feeder

To verify:

1. Slide feeder back far enough to clear the vacuum base side guides. *If necessary, loosen the knob on both side guides and pull to the outside slightly to allow movement of the feeder.*
2. Insert a piece of product under the hold-down in such a way that approximately 2/3 of the leading edge is extending out beyond the feeder (Figure 2-7).
3. Slide feeder back into position, making sure it is again centered between the side guides. As you do so, also make sure that the leading edge of the product moves into the transfer section of the vacuum base unobstructed.

### IMPORTANT

*Make sure rollers on vacuum base are raised in the highest vertical position so that it does not interfere with the product.*



Checking for Proper Product Discharge from Feeder to Vacuum Base

4. Check to make sure the product is still under the hold-down roller bearings and also resting on the vacuum base transfer section.
5. Trap the feeder in-between the side guides until they gently touch. Tighten side guide knobs.

# 3 Preparing for Operation

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Once the V-1400I is installed on your host system, you are then ready to prepare the machine for operation. To do so, perform the following steps:

- 1: Lateral feed belt adjustment
- 2: Gate/knockdown adjustment
- 3: Side guide setting
- 4: Back wedge adjustment
- 5: Verifying proper installation



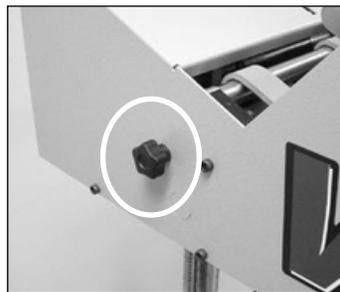
When performing initial feeder adjustments prior to operation, always make sure you turn **Off** the main power switch and disconnect all equipment from the electrical power source. Failure to do so can expose you to a potential startup and moving parts which can cause serious injury.

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.

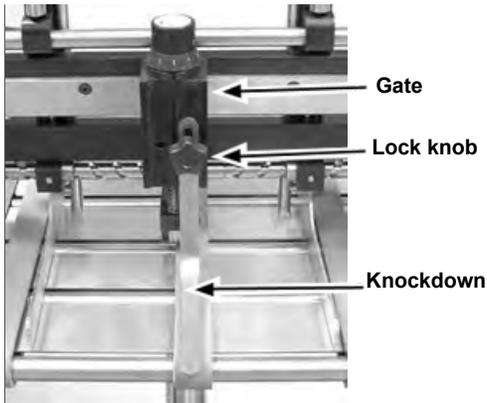
## STEP 1: Lateral Feed Belt Adjustment

Smaller size product may use only the middle belt where as larger product will likely use the two outside feed belts. The middle feed belt is stationary and has no lateral adjustment. Since this belt is located exactly in the center, it should be used as reference for the balance of the feed belt set-up. If the outside belts are used, they should be positioned towards the outside edge of the product for the benefit of drive and support. They are adjusted using the knobs located on each side of the feeder.

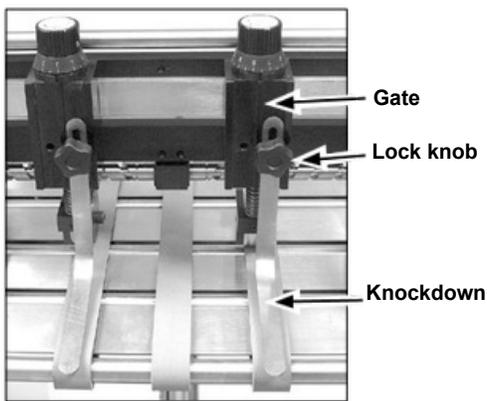


Belt adjustment knob

## STEP 2: Gate/Knockdown Adjustment



Single gate over the middle belt



Two gates over the outer belts



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

### TIP

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

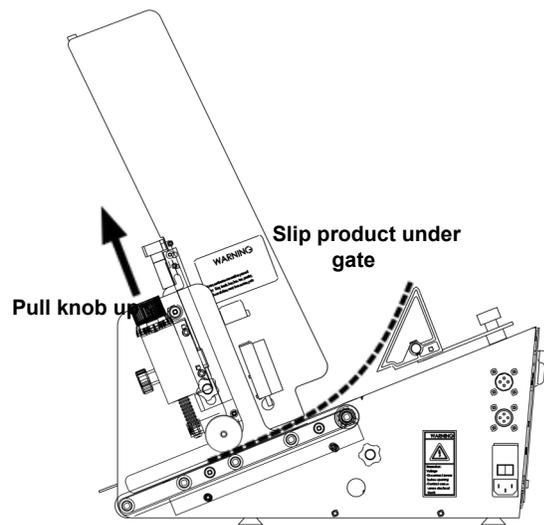
### NOTE

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

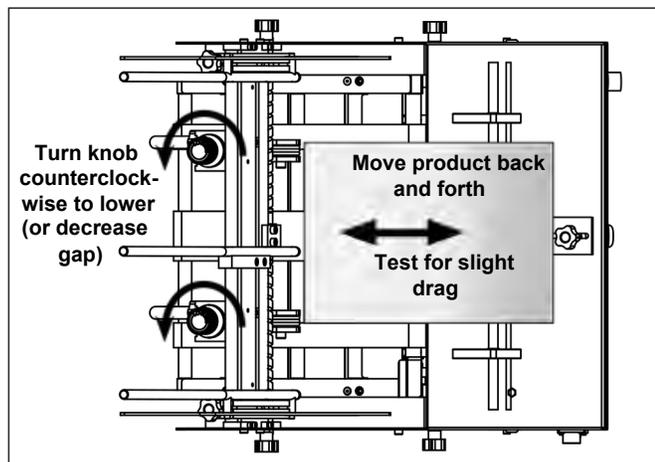
When feeding product with varying thickness, it may be necessary to adjust the two gates individually for the different thicknesses.

Decide whether one or two gates will be needed. This is usually based on the material size and the function of separating. They can be placed either over the belts or over the void between belts.

1. Position the gate (either over the middle feed belt or the void between the belts) and position the knockdown approximately 1/16" above product (or a gap which allows unimpeded feeding). Tighten the lock knob.
2. Slide a single piece of product between the feed belt and the gate.
3. Rotate the gate adjustment knob either up or down until the product can be pulled from under the gate assembly with a slight amount of drag.
4. Repeat the drag tests and adjust as needed to achieve acceptable clearance.
5. When using two gates, position each gate and repeat steps 1 through 4.

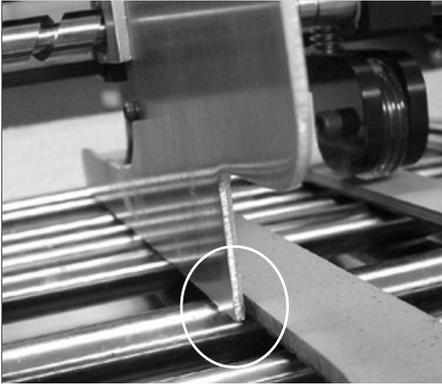


Lift gate assembly upward to insert product

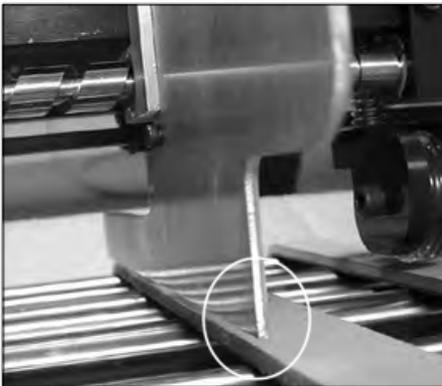


Use one piece thickness to set gap

## STEP 3A: Side Guide Adjustment

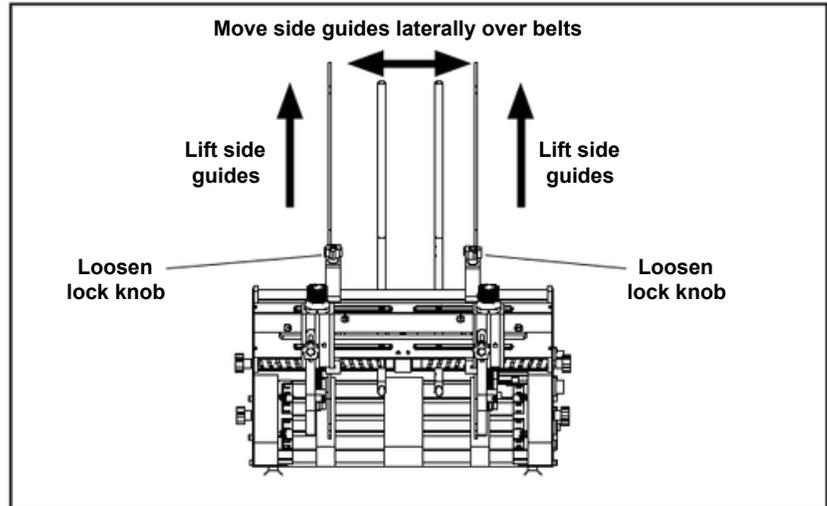


Side guide in down position

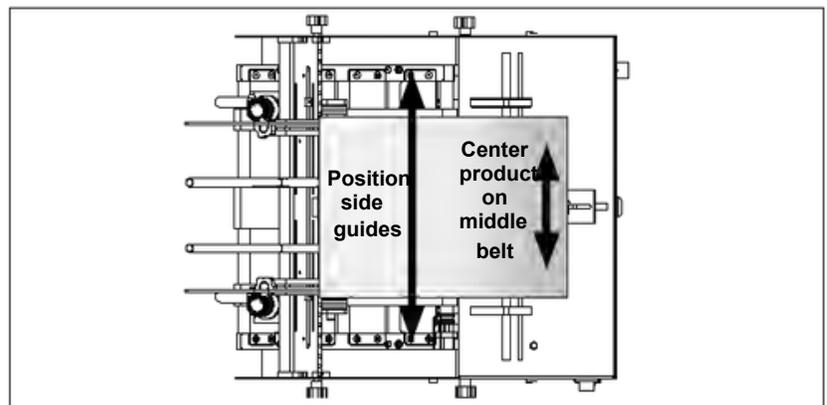


Side guide in up position

1. Loosen each side guide lock knob. This will allow you to move each side guide individually from side to side.
2. Each guide is attached by a pin and slot mechanism allowing the guide to adjust vertically approximately ½ inch. To move over a feed belt, lift the side guide and move it laterally. After it has passed over the belts, push the side guide down in the slot.



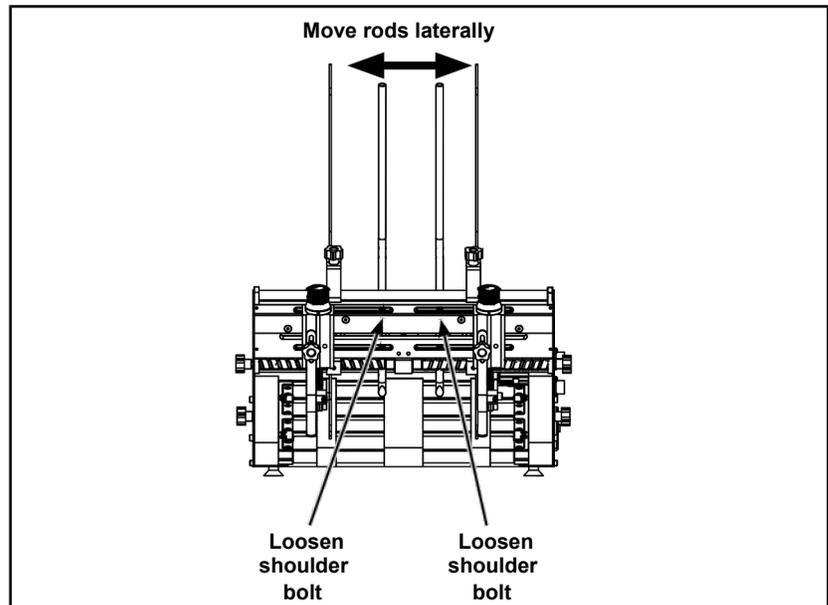
3. Center the product to be run on the middle belt and position both side guides close to the edge of the product (approximately 1/16th inch) by turning the side guide adjustment knobs.
4. Place a handful of pre-shingled product in the hopper and against the gate(s).
5. Test run to assure proper feeding and singulation.
6. Tighten the side guide lock knobs to secure the position.



### **STEP 3B: (Optional) Product Support Rod Adjustment**

At the minimum setting (all the way toward center) the product hopper can be set to a 2" wide product. The rods are adjustable laterally to better support wider products.

Loosen the shoulder bolts and move rods to desired position.



## STEP 4: Wedge Adjustment



*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 product. If moving the back wedge in is not effective, then an optional wedge may be required.*



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

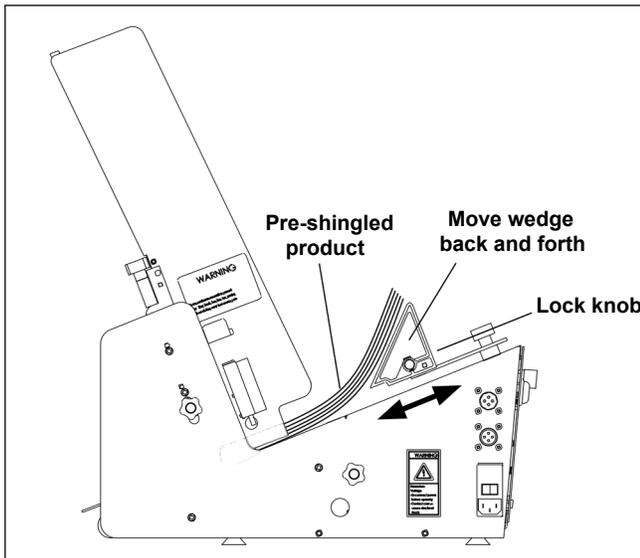


*There are a number of feeding problems which can be solved by simply adjusting the back wedge to different positions. Some of these problems include double feeds, skewing, twisting, poor singulation, ink or varnish buildup on the belts, and jamming at the gate assembly area.*

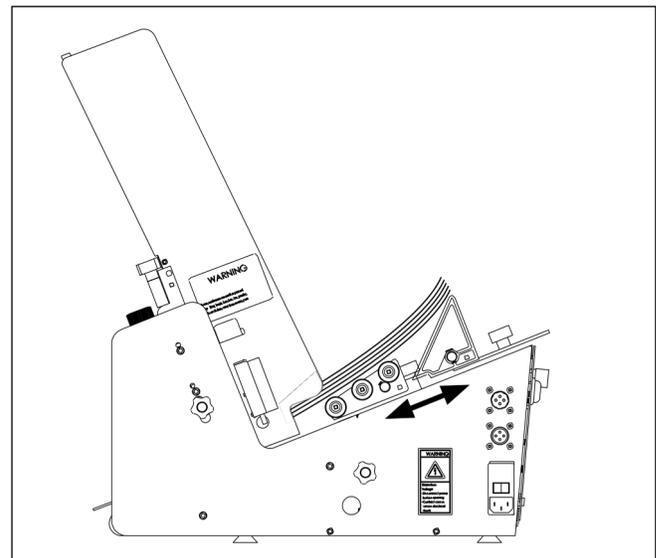
## Procedure

Adjust the wedge for proper positioning following these steps:

1. Grasp a handful of product, approximately 2 to 2.5 in. (5 to 6 cm) thick, and preshingle the edges with your thumb.
2. Place the pre-shingled product in the hopper so that the edges rest against the curvature of the gate assembly.
3. Loosen the wedge adjustment lock knob.
4. Move the wedge back and forth until the bottom sheet is not touching the table top. A good starting point is to measure about .625 in. (16 mm) from the bottom sheet to front edge of table top. Then as you test, you can “fine tune” from this point.
5. Make sure the wedge assembly is parallel with the edge of the product stack. Adjust as required and tighten the lock knob.
6. To feed longer products you may need to use a secondary wedge assembly for assistance, called a “low profile” wedge. It is positioned between the triangle wedge and the feed belts to give extra support to the product as it resides in the hopper. It should be adjusted so that the proper amount of belt surface contacts the bottom piece of the product. The wedges should be evenly spaced to provide enough support to lift the product off the table top and feed belts, without any bowing or twisting.



Adjusting the wedge



Using a low profile wedge

## STEP 5: Verifying Proper Installation

Now that you have made all the necessary adjustments for operation, it is recommended that you verify product 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 product through the gate assembly area.



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



*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 product. If moving the back wedge in is not effective, then an optional wedge may be required.*



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

### Manual Test to Verify

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

1. With the power off, manually feed several pieces of product slowly through the gate assembly area.
2. Observe how individual products enter and exit the gate 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 gate assembly area.
3. If feeding doubles, then move the wedge in towards the gate assembly. Test again.
4. If pieces are overlapping excessively or, if the machine is feeding doubles, then reduce the gap slightly by moving the gate(s) adjustment knob about 1/8 turn counter-clockwise. Test again.
5. As product moves through the hold-down area, check for any skewing or jamming. Also check for damage to the product.
6. If this or other feeding problems still persist (slipping, skewing, jamming), then review all the adjustment procedures in “Preparing for Operation”.

# 4 How to Operate

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This section provides a *sequence of operation* for the V-1400IJ. 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 product in the hopper
- 2: Determining stack height
- 3: Powering On feeder
- 4: Setting/adjusting speed
- 5: Running test cycles
- 6: Final check

### STEP 1: Loading Product in the Hopper



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

1. Start by preshingling by hand a small stack of product so that it conforms to the curvature of the gate assembly. Push in gently to make sure lead edges touch the gate assembly and front edges of the pre-gate bars.
2. At the back wedge, notice how it helps lift the trailing edges of the product 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.

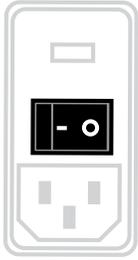
### STEP 2: Determining Stack Height



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

1. Gradually add more product 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 effective range of height.
2. Make sure the product is loaded in the hopper as straight as possible. Before adding to hopper, “jog” each handful of product 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.

- For feeders using external run, feeder motor will not run until the entire base power switch is turned On (feeder On/Off is controlled via run enable input cable).

### 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 production line speed of your particular application.

### STEP 5: Running Test Cycles

#### TIP

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

*For vacuum base applications:*

1. With the feeder already fully loaded and powered On, run the vacuum base through several cycles.
2. Notice transition of product from feeder gate assembly area to the transfer area of the vacuum base. Adjust feeder horizontally as needed (refer to “Installing the Machine”).
3. Adjust feeder speed as needed to coincide with transport belt speed.

### STEP 6: Final Check

Make sure:

- Leading edge of bottom product stops at proper location.
- Proper separation is occurring at gate assembly area.
- Product is not skewing.
- Effective preshingling is occurring at curvature of gate assembly.
- Product is not being damaged during cycling.
- Feeder is secured and will not move during operation.

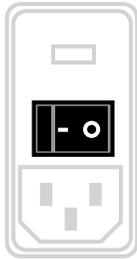
## Clearing a Jam

If a jam occurs during operation, follow these steps:

1. Turn the feeder power Off by pushing the circle (O) at the rocker **Power** On/Off rocker switch.
2. Remove jammed product 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 (O) at the rocker **Power** On/Off rocker switch.
2. Disconnect the feeder power cord from the AC power source.  
*If installed, disconnect run enable input from feeder control panel.*
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.

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
<b>No AC power to feeder</b>	<ol style="list-style-type: none"> <li>1. On/Off switch in "Off" (or "O" position).</li> <li>2. Power cord loose or not plugged into outlet (or AC power source).</li> <li>3. Female end of power cable loose or not plugged into AC power inlet at rear of feeder.</li> <li>4. Faulty run enable input connection or cable.</li> </ol>	<p>Move switch to "On" (or "—" position). Check and secure power cord at AC outlet.</p> <p>Check and secure cord at AC power inlet at rear of machine.</p> <p>Check and secure cable connections. Replace if necessary.</p>
<b>Feeding doubles</b>	<ol style="list-style-type: none"> <li>1. Gate assembly improperly adjusted (possibly more than one sheet thickness).</li> <li>2. Back wedge improperly adjusted.</li> <li>3. Worn O-rings (or angled edge).</li> <li>4. Product interlocking.</li> <li>5. Static buildup.</li> </ol>	<p>Review gate 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 product and source.</p> <p>Check product and source.</p>
<b>Feed belts are operating, but product not feeding</b>	<ol style="list-style-type: none"> <li>1. Product stack height is too low when stack height is down, resulting in reduction of down pressure.</li> <li>2. Binding in side guides.</li> <li>3. Slippery feed belts.</li> <li>4. Sheet adhesion or interlocking between the bottom and next sheet.</li> </ol>	<p>Review product loading procedure.</p> <p>Adjust side guides further apart to allow freedom of movement between sheets</p> <p>.Refer to "Cleaning Feed and Discharge Belts".</p> <p>Review product loading procedure and back wedge adjustment procedure.</p>

## Troubleshooting (continued)

<b>Problem</b>	<b>Cause</b>	<b>Solution</b>
<b>Feed belts are operating, but product not feeding (continued)</b>	5. Gate assembly may be down too tight. 6. Too much weight in hopper.	Review gate assembly adjustment procedure.  Remove product from stack. Test again.
<b>Jamming occurs during operation</b>	1. Improper adjustment in one or more of the following: <ul style="list-style-type: none"> <li>• gate assembly</li> <li>• back wedge</li> <li>• material control</li> </ul>	A. Turn the Power switch to "Off" by pressing the circle (O). B. Remove jammed product 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.
<b>Product skewing</b>	1. Back wedge not aligned properly. 2. Improperly adjusted gate(s) horizon.	Review back wedge adjustment procedure. Review gate assembly adjustment procedure.

# 6 Inspection and Care

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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.

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## 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.

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### Checking for Gate Assembly Wear

Check for visual signs of wear:

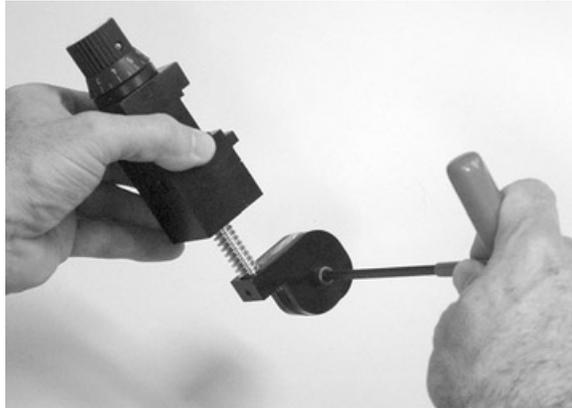
- Flat areas along the O-rings.
- Gum-like material build-up around separating surface.

## Visual Inspection (continued)

### Standard O-Ring Gate: Adjusting Worn O-Rings

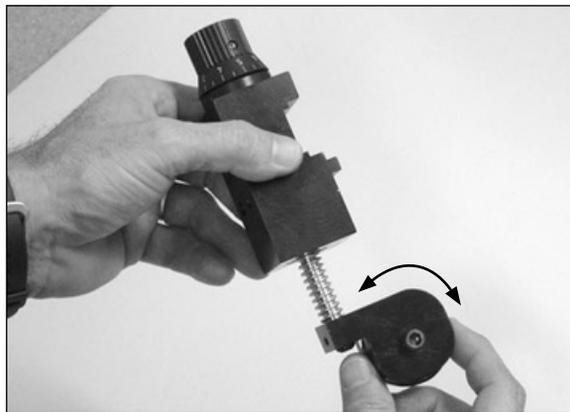
To adjust worn O-rings:

1. Turn Off feeder and remove power cord from outlet.
2. Remove gate(s) assembly from gate 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 gate assembly and restore power.

## Preventive Care



Use only isopropyl alcohol. 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 or as needed to maintain coefficient of friction integrity

## 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, making sure to wipe in direction of grooves. After several rotations of the belt, repeat for each belt.
4. Using a dry 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.
5. Restore power.

## Cleaning 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 o-ring.

To clean gate assemblies:

1. Turn Off feeder and remove power cord from outlet.
2. Remove gate 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. Using a dry cloth, go back and wipe all surfaces to ensure they are dried.
6. Reinstall gate 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").*



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

*Cleaning schedule for various products:*

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

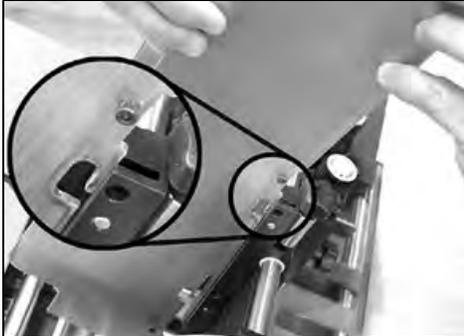
# Carriage Feed Belt Replacement

## Removal

The procedure for feed belt replacement requires the removal of the side guides, carriage safety guard and the carriage.

### Side Guides:

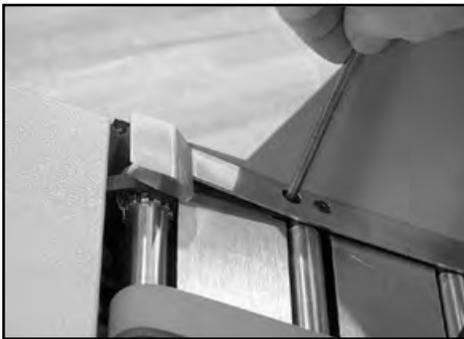
1. Each guide is attached by a pin and slot mechanism allowing the guide to be raised vertically (see Step 3 Page 13). Lift the guide up and remove it from the pin. Repeat for both side guides.



Remove the side guides.

### Carriage:

2. Remove the 4 bolts securing the carriage blocks.



Remove carriage mounting bolts.

3. Pull the carriage toward the motor. This loosens the timing belt to allow you to disengage the belt.



Pull carriage toward motor.

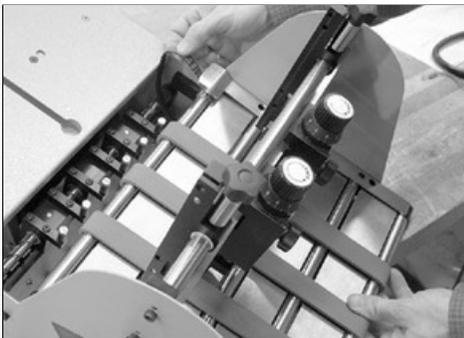
# Carriage Feed Belt Replacement (continued)



Disengage timing belt.

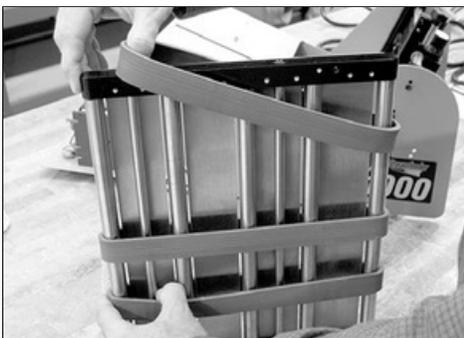
## Removal

4. Disengage the timing belt by slipping it over the motor pulley.



Remove carriage.

5. Remove the carriage by pulling it out through the discharge area of the feeder.

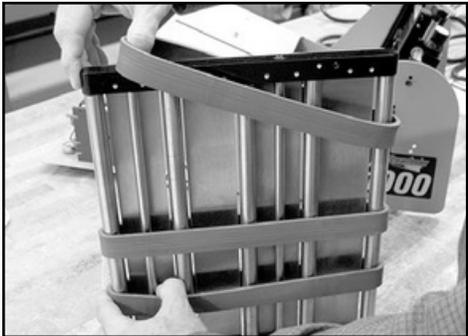


Remove the belts.

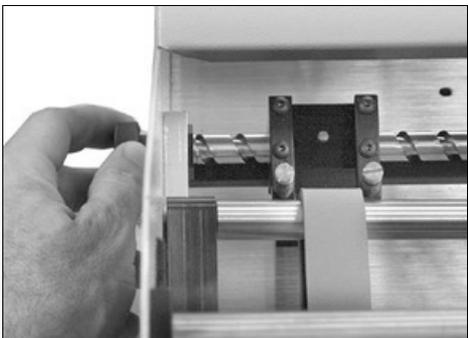
## Feed Belts:

6. Position the carriage on end. Slip the belts over and off of the carriage block.

## Carriage Feed Belt Replacement (continued)



Install the belts.



Align the belt adjustment blocks with the belts.

## Installation

Install new feed belts by repeating the previous steps in reverse order.

### Feed Belts:

1. Slip the new belts over and onto the carriage block. Position the belts equally on the carriage shafts.

### Carriage:

2. Install the carriage by pulling it through the discharge area of the feeder.
3. While holding the carriage in place, align the belt adjustment blocks with each corresponding belt. Slide the carriage up and over the spacers of the adjustment blocks.

4. Pull the carriage toward the motor as to allow you to re-engage the timing belt on the motor pulley.
5. Re-engage the timing belt by slipping it over the motor pulley.
6. Position the carriage and reinstall the 4 bolts securing the carriage blocks.

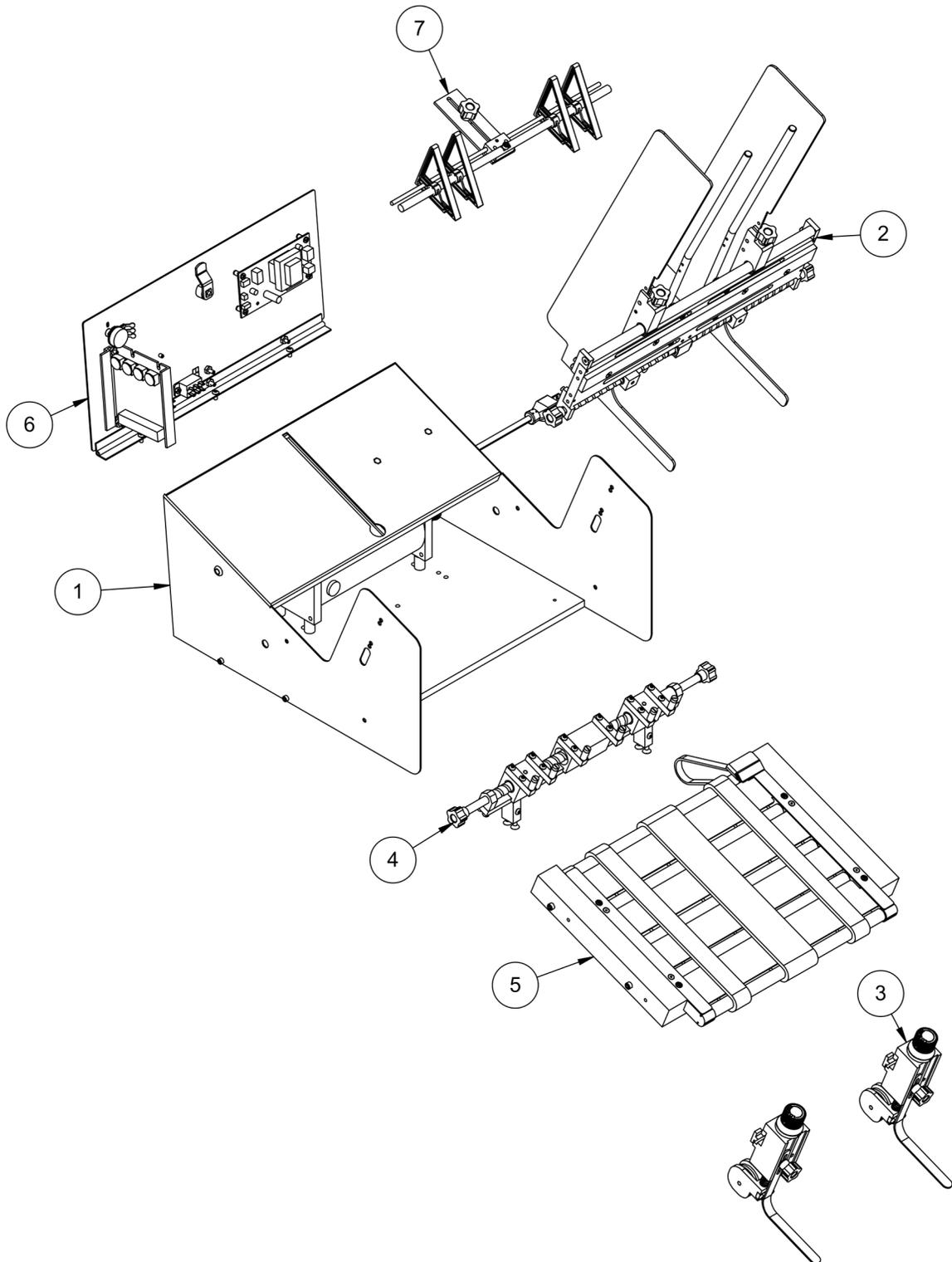
### Side Guides:

7. Re-attach both side guides.



# 7 Mechanical Components

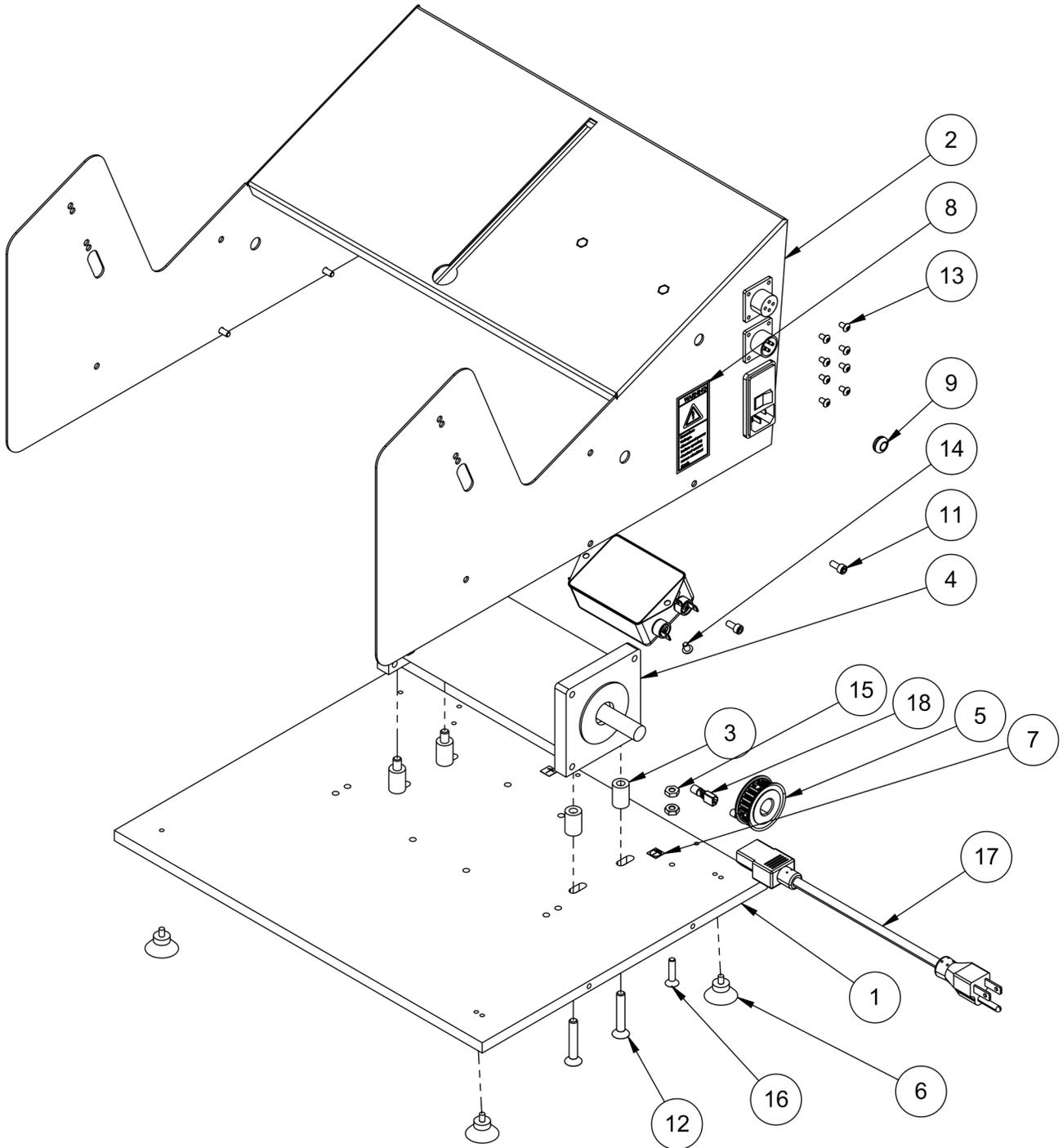
## V-1400IJ ASSEMBLIES Assembly # 311-1700



**V-1400IJ ASSEMBLIES**  
**Assembly # 311-1700**

<b>ITEM</b>	<b>QTY.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>
1	1	311-1720	BASE ASSEMBLY 115V
2	1	311-1704	HOPPER ASSEMBLY
3	2	311-1604	GATE ASSEMBLY
4	1	311-1721	BELT ADJUSTMENT ASSEMBLY
5	1	311-1722	CARRIAGE ASSEMBLY
6	1	311-1723	BACK PANEL ASSEMBLY 115V
7	1	311-1224	WEDGE ASSEMBLY

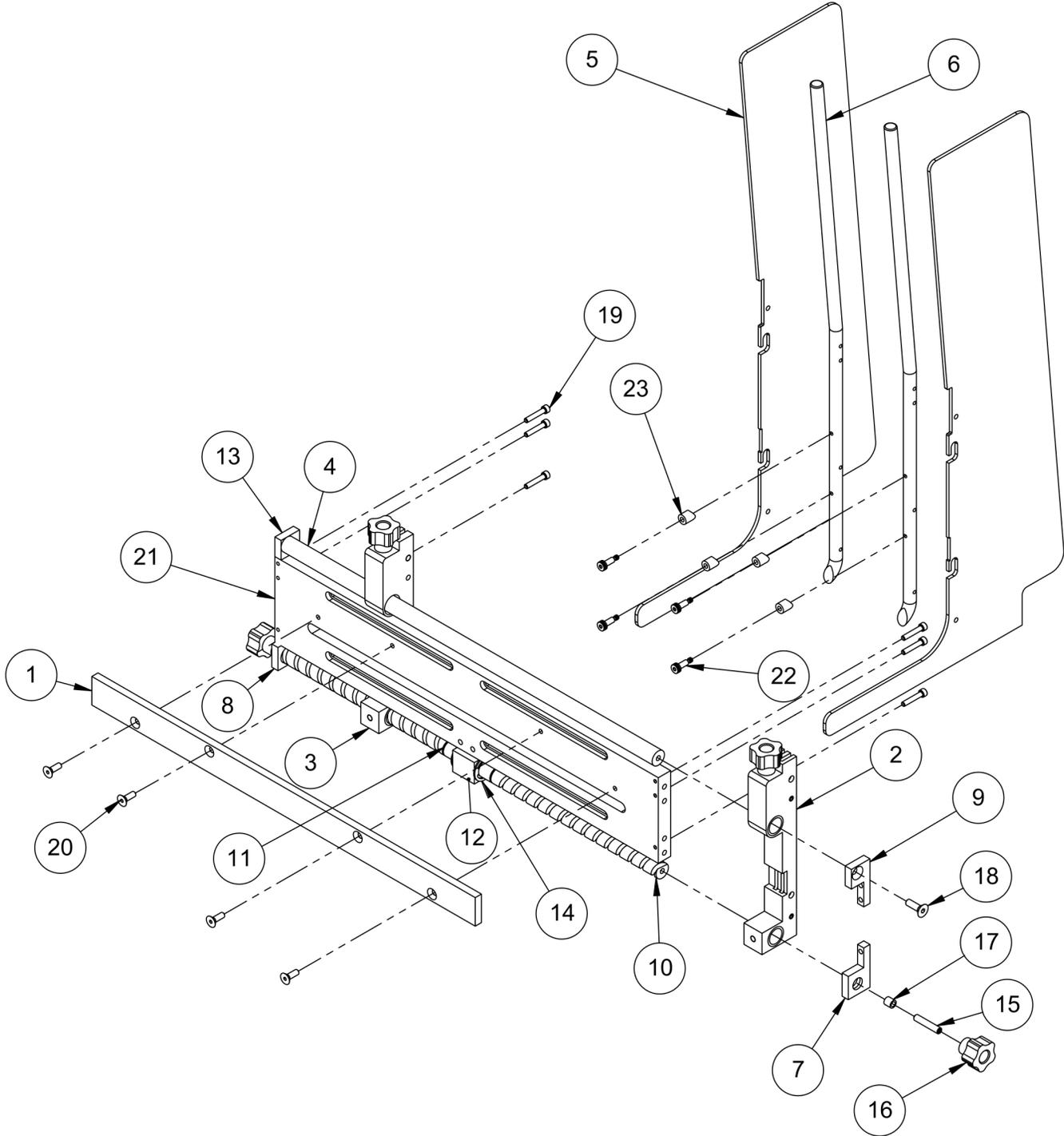
**BASE ASSEMBLY (115V)**  
**Assembly # 311-1720**



**BASE ASSEMBLY (115V)**  
**Assembly # 311-1720**

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	903928	PLATE, BASE V-1400
2	1	903929	SHELL V-1400
3	4	903285	STANDOFF .26ID X .50 OD X .75LG NYLON
4	1	10501133	ASSY, MTR 90VDC V710
5	1	903930	PULLEY, TIMING 21T XL 1/2 BORE
6	4	44846058	FOOT, SUCTION CUP
7	1	51310009	LABEL, GROUND SYMBOL
8	1	900801	LABEL HAZARDOUS
9	2	1130	GROMMET
10	1	611-0041	HARNESS MAIN POWER W/ FILTER
11	4	102685B02	SHCS BLACK OXIDE 8-32 X .38
12	4	102638B08	FHCS BLACK OXIDE STEEL 1/4-20 X 1.50
13	8	102705B01	BHCS BLACK OXIDE 6-32 X .25
14	2	2210	BHCS BLACK OXIDE 8-32 X .25 1
15	2	600623B04	0-32 KEP NUT
16	1	102637B14	FHCS BLACK OXIDE STEEL 10-32 X .88
17	1	53500002	CORD, PWR 115 VAC IEC 3 PRGGND
18	1	53500254	TERMINAL, FEMALE 22-18AWG.
19	2	902913	FUSE 3.1 A SLO BLO

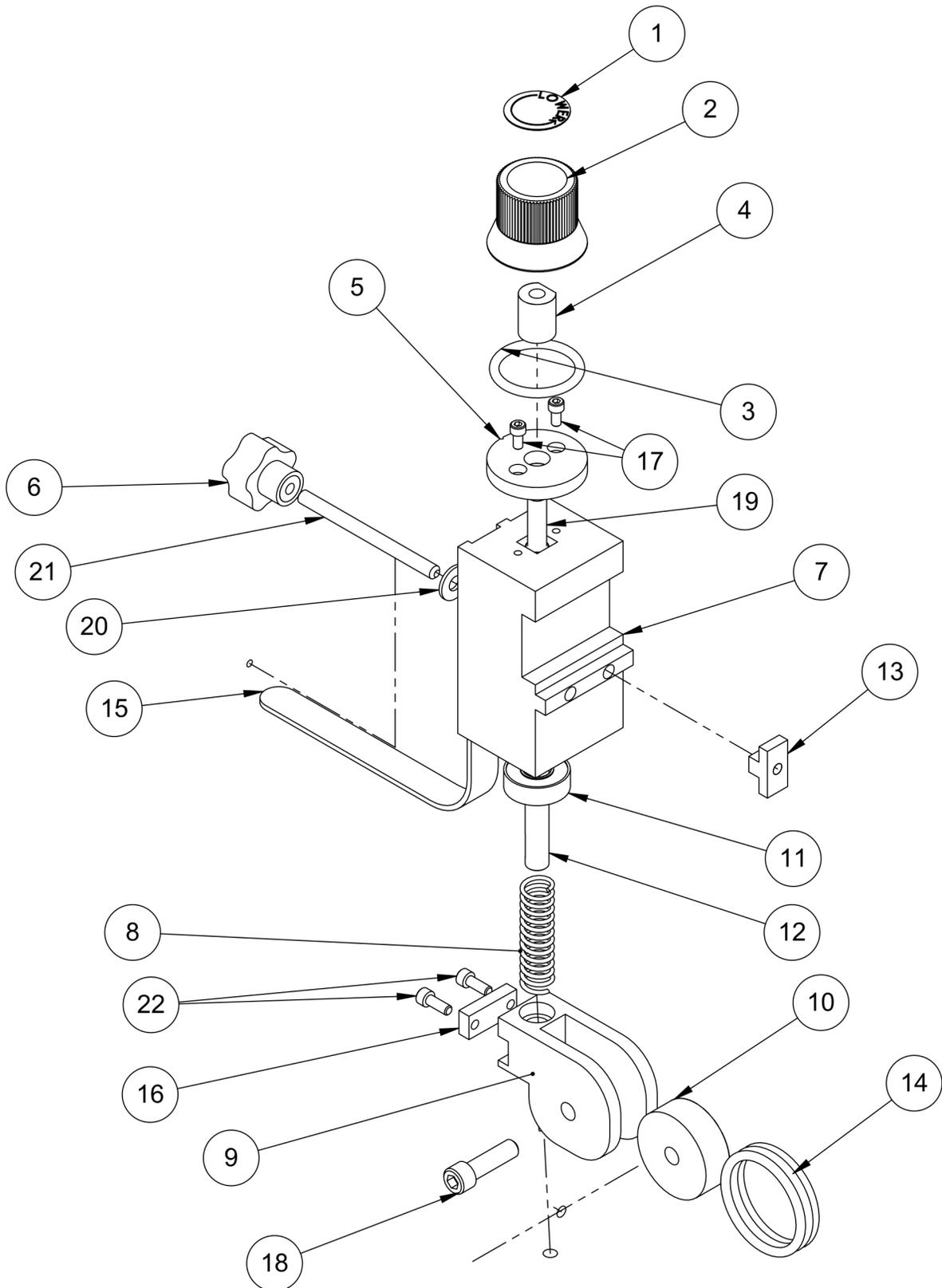
**HOPPER ASSEMBLY**  
**Assembly # 311-1704**



**HOPPER ASSEMBLY**  
**Assembly # 311-1704**

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	903936	BAR, TRACK V1400
2	1	311-0532	ASSY, LH SIDE GUIDE BLOCK
3	1	311-0531	ASSY, RH SIDE GUIDE BLOCK
4	1	903934	SHAFT UPPER SUPPORT
5	2	51745025	SIDE GUIDE
6	2	905367	BAR, PREGATE
7	1	51745048	SUPPORT, LH
8	1	51745056	SUPPORT, RH
9	1	51745069	BLOCK, UPPER
10	1	903940	SCREW, LH LEAD
11	1	903941	SCREW, RH LEAD
12	1	311-0533	ASSY, CENTER SUPPORT
13	1	51745072	BLOCK, UPPER
14	2	1155	E-TYPE, STEEL CLIP FOR 1/2 SHAFT
15	2	102732B11	SSSCPPT BLACK OXIDE 10-32 X 1.00
16	2	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
17	2	903818	THREADED ROUND STANDOFF 10-32 X 1/4 LG.
18	2	102637B04	FHCS BLACK OXIDE 10-32 X .62
19	6	102683B05	SHCS BLACK OXIDE 6-32 X .75
20	4	102635B03	FHCS BLACK OXIDE 8-32 X .50
21	1	903935	PLATE, GATE V1400
22	4	905879	BOLT, SHOULDER 6-32 X 3/8 SHOU
23	4	905368	STANDOFF, SIDE GUIDE

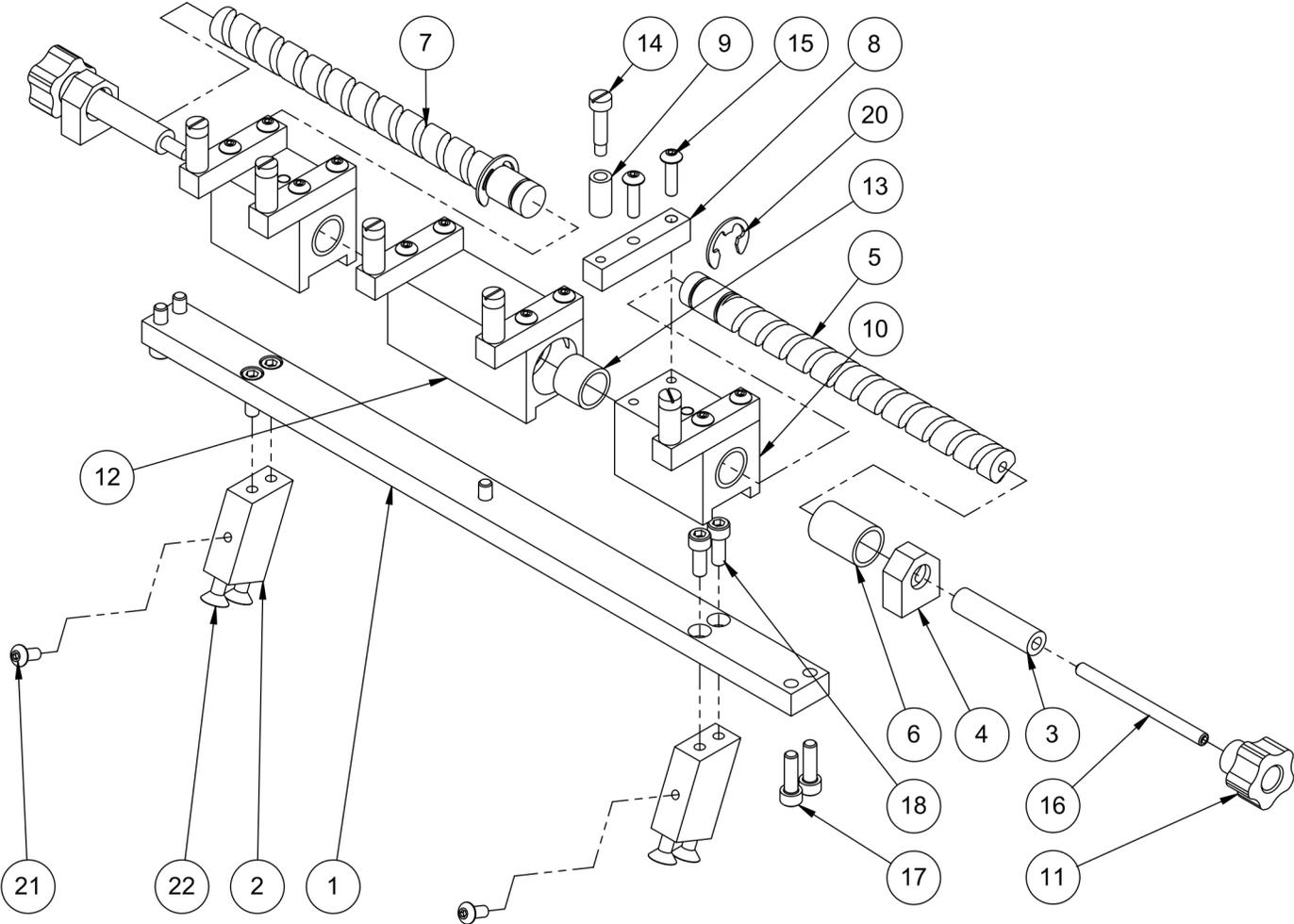
**GATE ASSEMBLY**  
**Assembly # 311-1604**



**GATE ASSEMBLY**  
**Assembly # 311-1604**

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	23500084	GATE ADJUSTMENT
2	1	51745079	KNOB, KNURLED CONTROL
3	1	51745080	O RING
4	1	51277081	KNOB INSERT
5	1	51745073	MOUNTING FLANGE
6	1	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
7	1	51745012	BLOCK, GATE SLEEVE
8	1	51745083	SPRING, GATE
9	1	334473TTI	MOUNT, GATE
10	1	51805014	O RING SPOOL
11	1	23500095	BEARING BALL R6 .375 BORE
12	1	334477TTI	SHAFT, GATE LIFT
13	1	51745020	NUT, T GATE
14	3	23500089	O-RING, STANDARD GATE
15	1	51805038	KNOCK DOWN
16	1	334528TTI	PLATE
17	2	102930B01	SHCS SST 5-40 X .25
18	1	102689B06	SHCS BLACK/OXIDE 1/4-20 X .88
19	1	102734B12	SSSCPPT 1/4-28 X 1.25 BLACK OXIDE
20	1	107544B06	HEAVY FLAT WASHER SS .20 ID X 1/16 THK.
21	1	102732B16	SSSCPPT BLACK OXIDE 10-32 X 2.50
22	2	102932B02	SHCS/SSTL 6-32 X .38

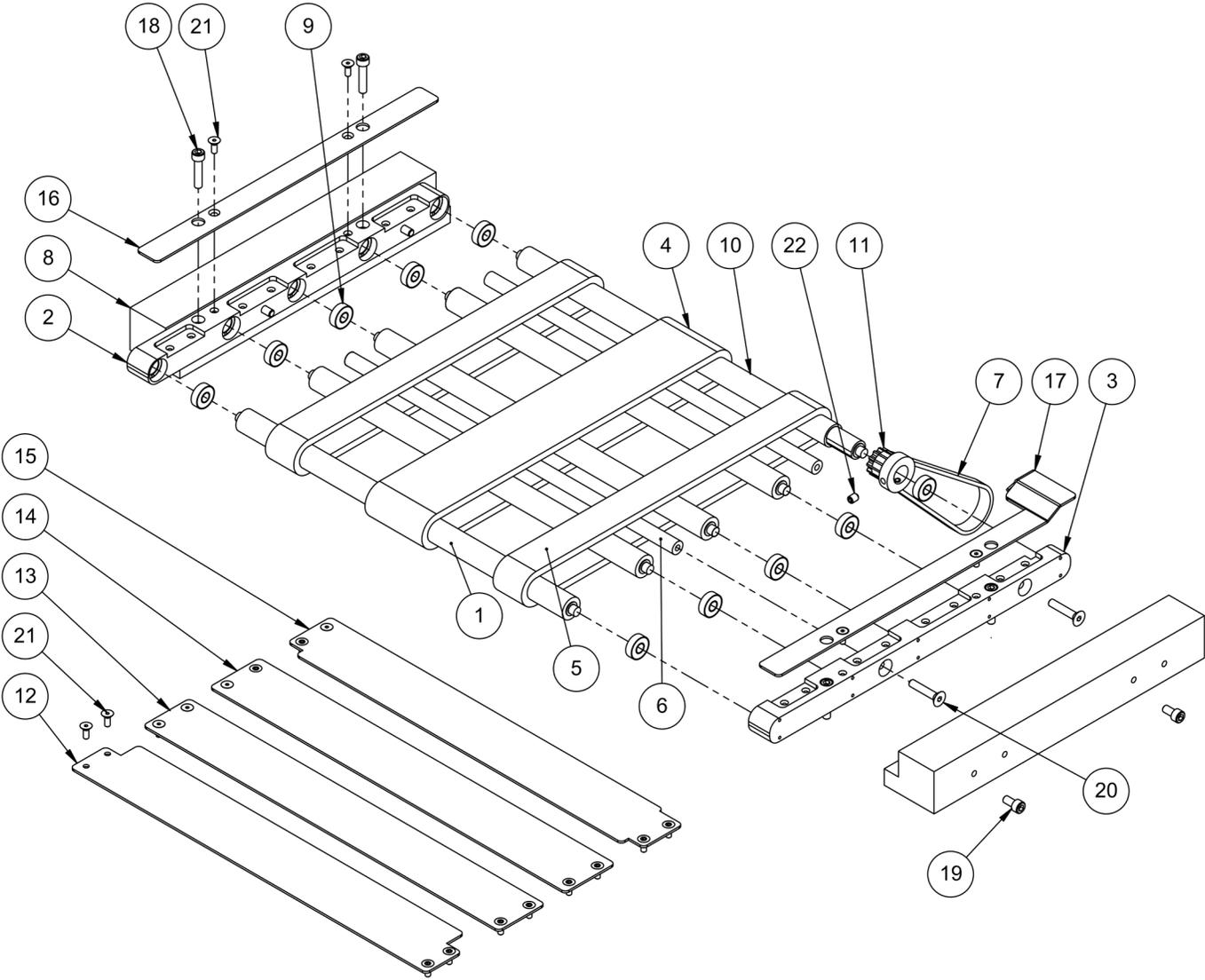
**BELT ADJUSTMENT ASSEMBLY**  
**Assembly # 311-1721**



**BELT ADJUSTMENT ASSEMBLY**  
**Assembly # 311-1721**

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	51745030	MOUNT, SLIDE
2	2	51745038	BLOCK, STAND
3	2	903958	STANDOFF, #10 X 3/8 OD X 1.50 LG ALUM
4	2	51745041	BLOCK, END
5	1	51745040	SCREW, LH LEAD
6	1	51745078	BUSHING-USE 119679B231
7	1	51745039	SCREW, RH LEAD
8	6	51745065	BRACKET, BELT
9	6	51745064	SPACER, BELT
10	2	311-0529	ASSY, SIDE BELT
11	2	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
12	1	903772	CARRIAGE WIDE BELT BLOCK CENTER
13	2	119679B226	BEARING SLEEVE .50 ID X .62 OD X .50 LG
14	6	44748008	SCREW, SLS/S3/16X5/8 8-32X3/16
15	12	102706B04	BHCS BLACK OXIDE 8-32 X .62
16	2	102732B16	SSSCPPT BLACK OXIDE 10-32 X 2.50
17	5	102688B04	SHCS BLACK OXIDE 10-32 X .63
18	4	102688B03	SHCS BLACK OXIDE 10-32 X .50
19	0	102637B05	FHCS BLACK OXIDE 10-32 X .75
20	2	1155	E-TYPE, STEEL CLIP FOR 1/2 SHAFT
21	2	102955B02	BHCS SST 8-32 X .38
22	4	102916B03	FHCS SSTL 10-32 X .50

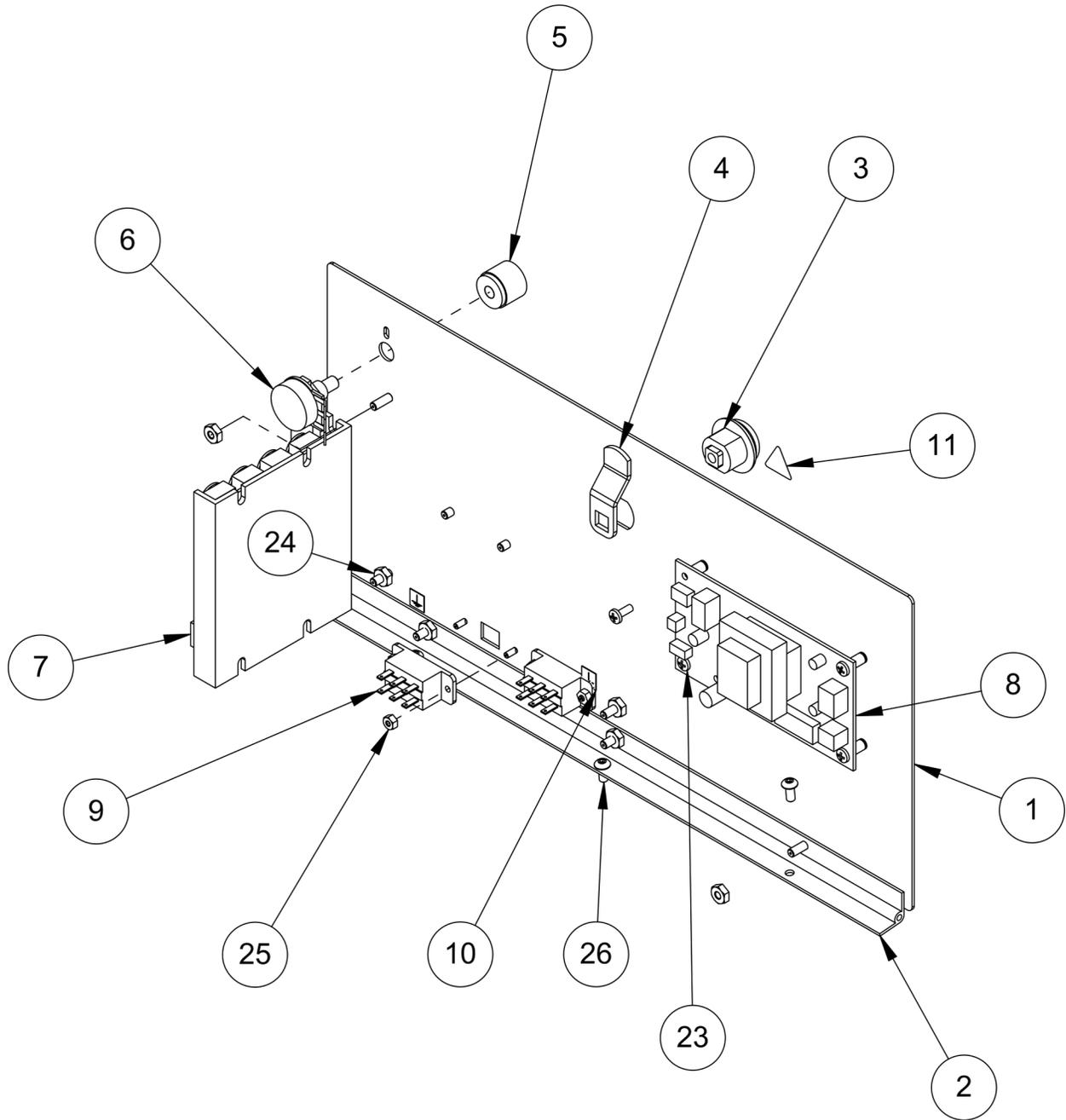
**CARRIAGE ASSEMBLY**  
**Assembly # 311-1722**



**CARRIAGE ASSEMBLY**  
**Assembly # 311-1722**

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	4	51745032	SHAFT, SUPPORT
2	1	900935	BLOCK, RH
3	1	900936	BLOCK, LH
4	1	903773	BELT, BLUE FEED 2"
5	2	51745035	BELT, FEED BLUE 1W
6	2	51745071	SHAFT CARRIAGE SUPPORT
7	1	435BG107	BELT, TIMING XL 55 TEETH
8	2	903931	CARRIAGE MOUNT V1400
9	10	44582021	BEARING, BALL R4 .25 BORE
10	1	51745019	SHAFT, LOWER
11	1	43555302	PULLEY, TIMING 12T XL 1/2 BORE
12	1	900939	COVER
13	1	900940	COVER
14	1	900941	COVER
15	1	900942	COVER
16	1	900938	COVER
17	1	900943	COVER
18	4	102688B06	SHCS BLACK OXIDE 10-32 X .88
19	4	102688B02	SHCS BLACK OXIDE 10-32 X .38
20	4	102637B06	FHCS BLACK OXIDE 10-32 X 1.00
21	20	102634B02	FHCS BLACK OXIDE 6-32 X .38
22	2	102732B03	SSSCPPT BLACK OXIDE 10-32 X .25

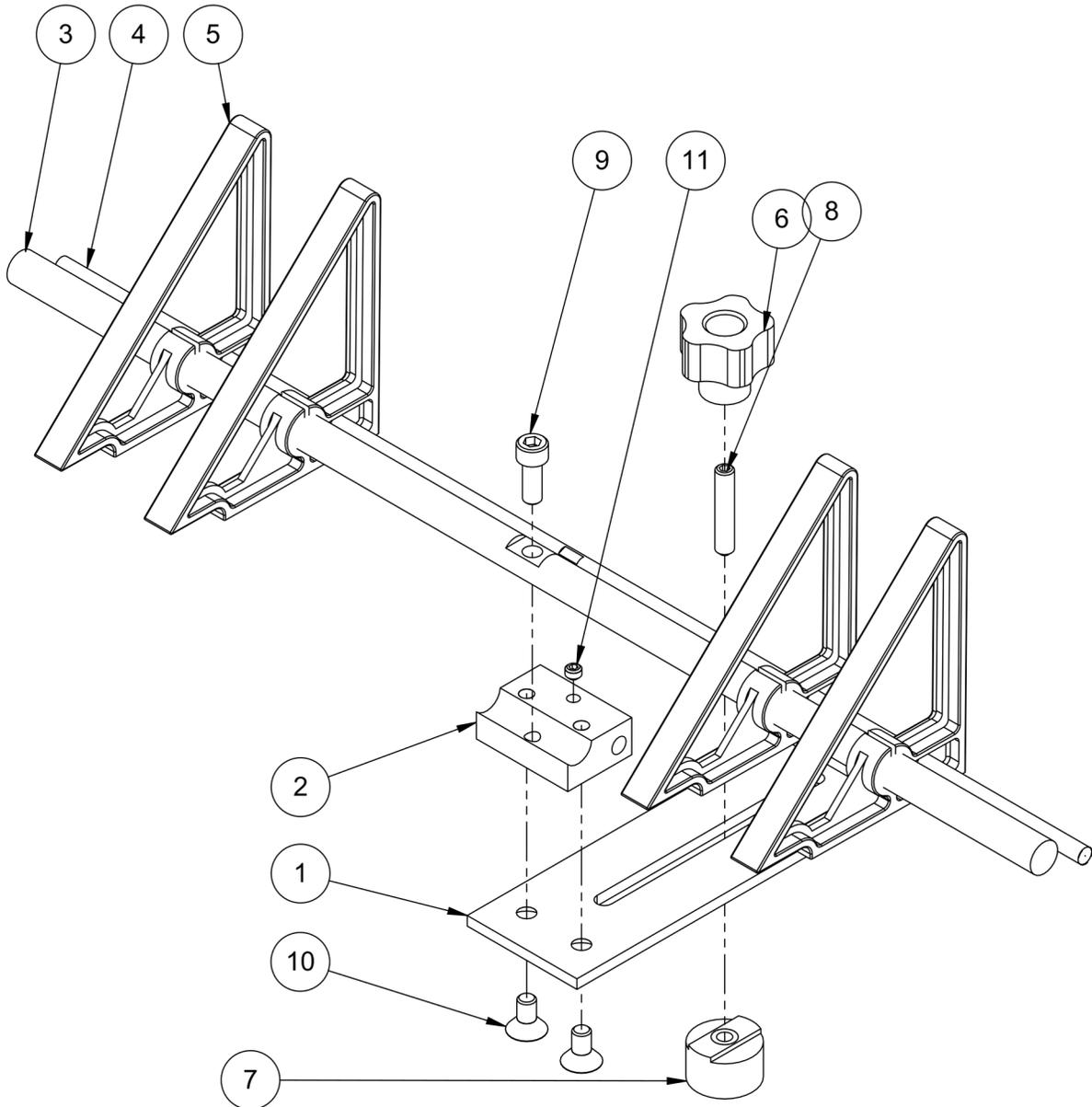
**BACK PANEL ASSEMBLY (115V)**  
**Assembly # 311-1723**



**BACK PANEL ASSEMBLY (115V)**  
**Assembly # 311-1723**

ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	903942	PANEL, BACK V1400
2	1	903943	HINGE BACK PANEL V1400
3	1	900769	LATCH, KEYED
4	1	900770	LATCH, CAM
5	1	44675030	KNOB, SPEED POT
6	1	611-0422	ASSY, SPEED POT V1400
7	1	44642025	BOARD, SCR DRIVE
8	1	44841015	BOARD, CONTROL IJ 115V
9	2	44642026	SWITCH, SLIDE
10	3	900739	LABEL, GROUND EARTH
11	1	900802	LABEL, ELECTRICAL SHOCK
12	1	903965	GRAPHIC SET, V1400
13	1	311-0090	KIT, EXT RUN RELAYS W/SOLID ST
14	4	3402	CABLE TIE MOUNT
15	6	903121	TIE, CABLE BLACK UL 4IN
16	1	611-0430	HARNESS, ALARM STATUS
17	1	10501135	ASSY, WIRE GROUND V710 IJ
18	1	10501136	ASSY, WIRE GROUND V710
19	1	17451110	ASSY, GROUND WIRE
20	1	611-0421	HARNESS, CNTROL BOARD & DRIVE
21	1	84111008	ASSY, CABLE DC MOTOR EXT
22	1	84111017	ASSY, HARNESS SCR ENABLE
23	4	102760B05	PHMSPH #6-32 X 3/8
24	6	103333B07	KEP NUT ZINC PLATE 8-32
25	4	103333B05	KEP NUT #4-40
26	3	102706B02	BHCS BLACK OXIDE 8-32 X .38
27	1	611-0261	8 PIN INTERFACE CABLE
28	1	611-0537	CABLE, 8 PIN INTFC W/ LEADS
29	1	611-0542	SCHEMATIC V1400IJ
30	1	611-0420	HARNESS, MAIN POWER & RECEPTLS
31	1	611-0429	HARNESS, SPEED RELAY

**WEDGE ASSEMBLY**  
**Assembly # 311-1224**



**WEDGE ASSEMBLY**  
**Assembly # 311-1224**

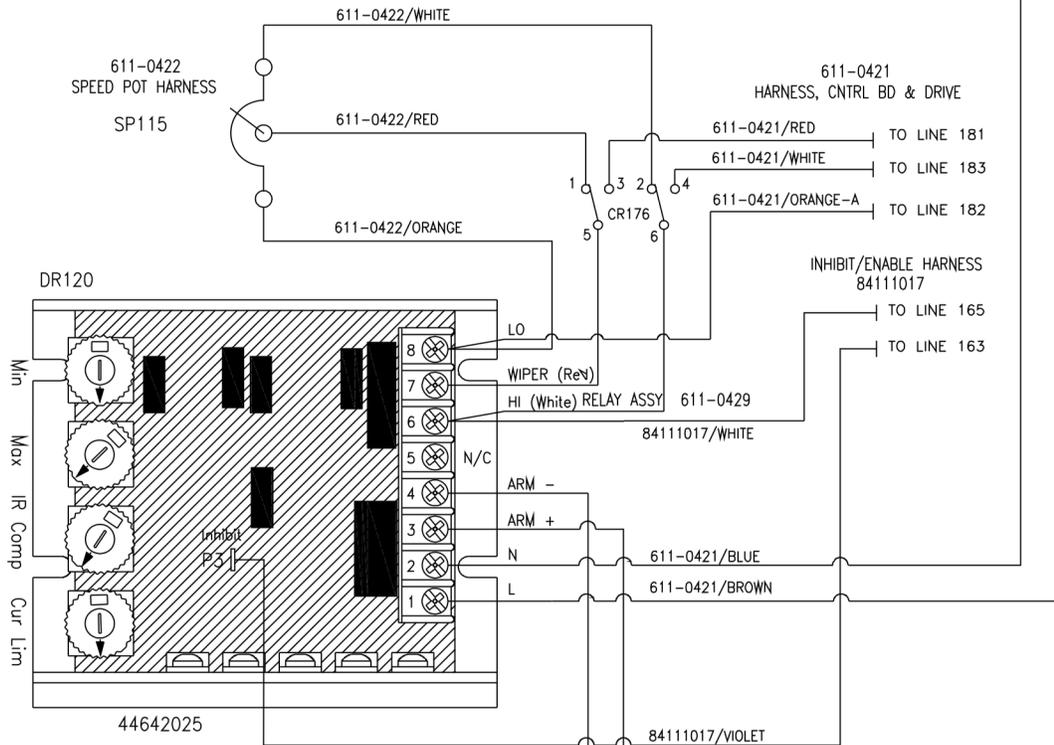
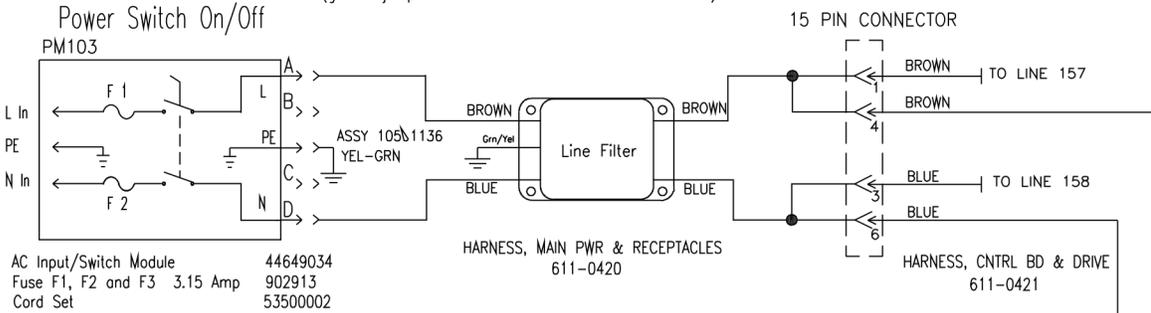
ITEM	QTY.	PART NUMBER	DESCRIPTION
1	1	51745008	PLATE, WEDGE BASE
2	1	51745062	BLOCK, WEDGE
3	1	903956	WEDGE GUIDE SHAFT
4	1	903957	WEDGE SUPPORT SHAFT
5	4	43560212	WEDGE, MATERIAL SUPPORT
6	1	44963102	KNOB, 5 LOBE WITH 10-32 THREADED INSERT
7	1	44633016	ROUND T-NUT
8	1	102732B11	SSSCPPT BLACK OXIDE 10-32 X 1.00
9	1	102688B03	SHCS BLACK OXIDE 10-32 X .50
10	2	102637B02	FHCS BLACK OXIDE 10-32 X .38
11	1	102729B01	SSSCPPT BLACK OXIDE 8-32 X .12

# 8 Electrical Components

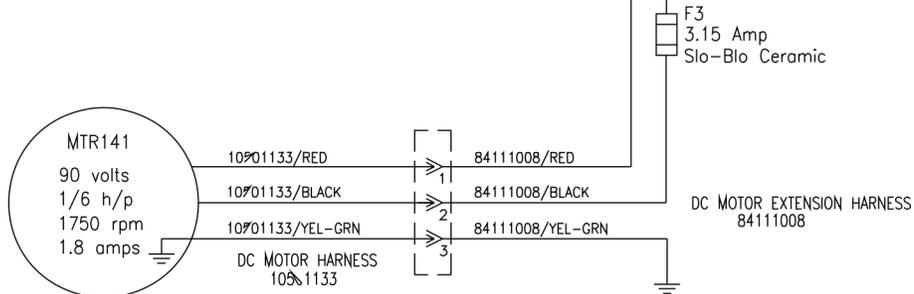
## 115V Assembly # 611-0418

NOT SHOWN ON SCHEMATIC:  
17451110 Assy, Ground Wire  
(ground jumper used to connect door to main chassis)

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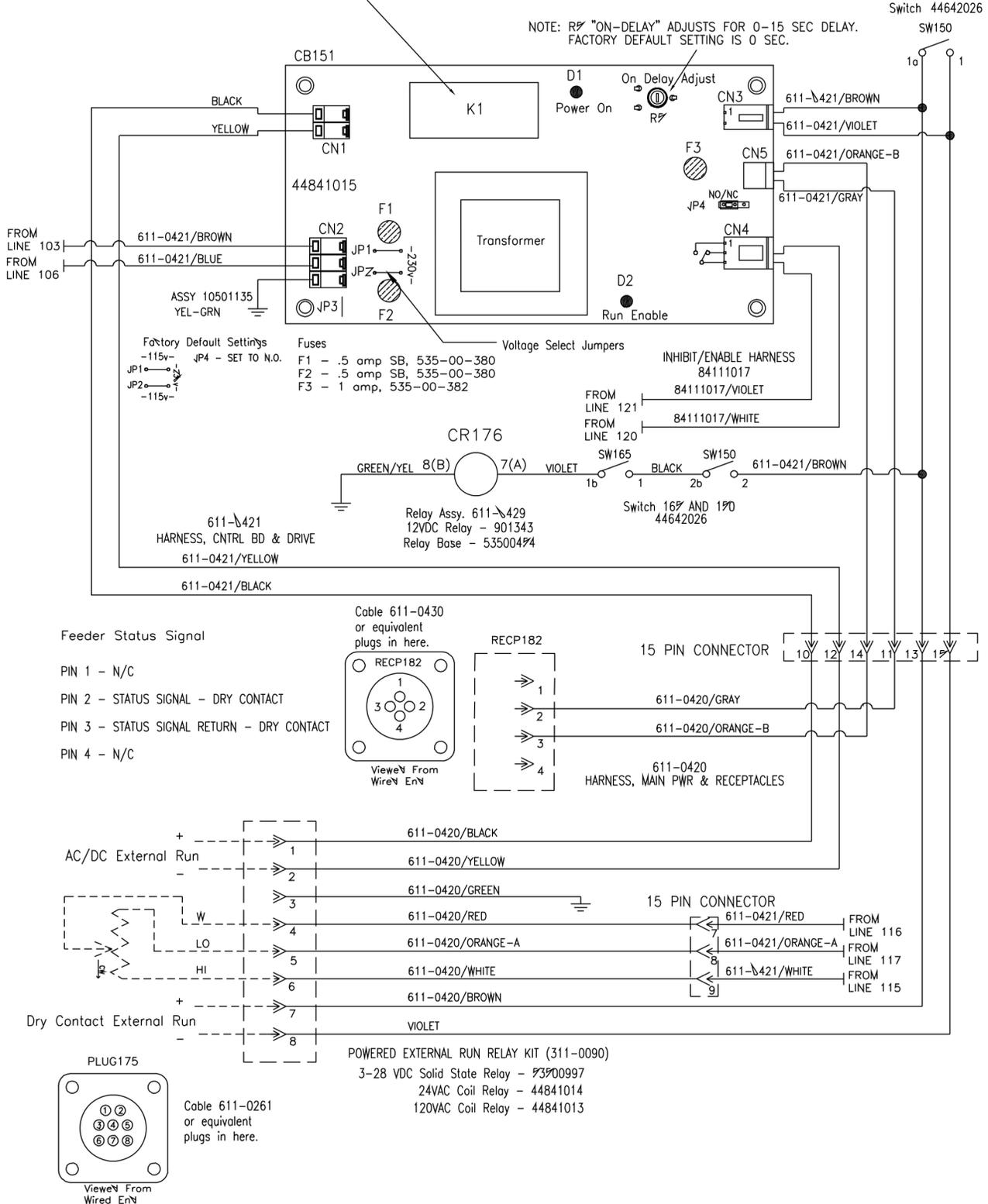
NOTE: TRIMPOT SETTINGS SHOWN AS STARTING POINT  
ADJUST "MIN" FOR NO MOTOR MOVEMENT WITH SPEEDPOT OFF  
ADJUST "MAX" FOR 90 VDC @ MOTOR CONNECTOR WITH POT TURNED TO MAX



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NOTE: PLACE CORRESPONDING RELAY FROM KIT IN SOCKET FOR  
POWERED EXTERNAL RUN: 3-28VDC Solid State or 24VAC Coil Relay

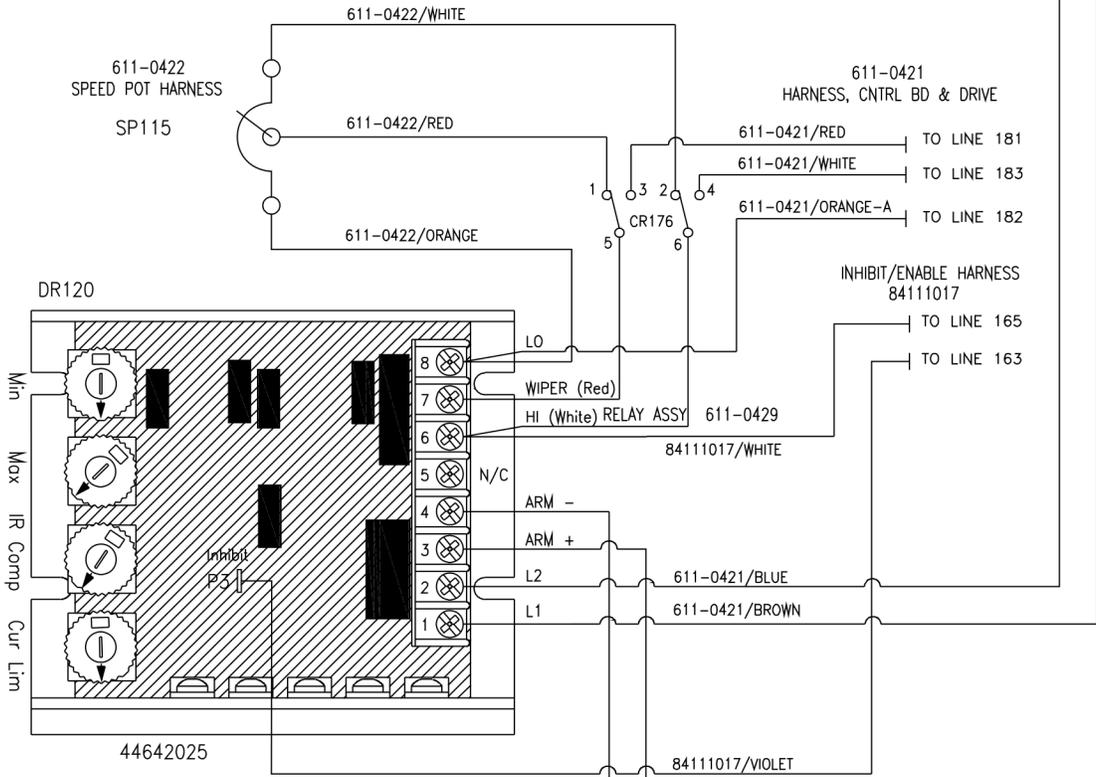
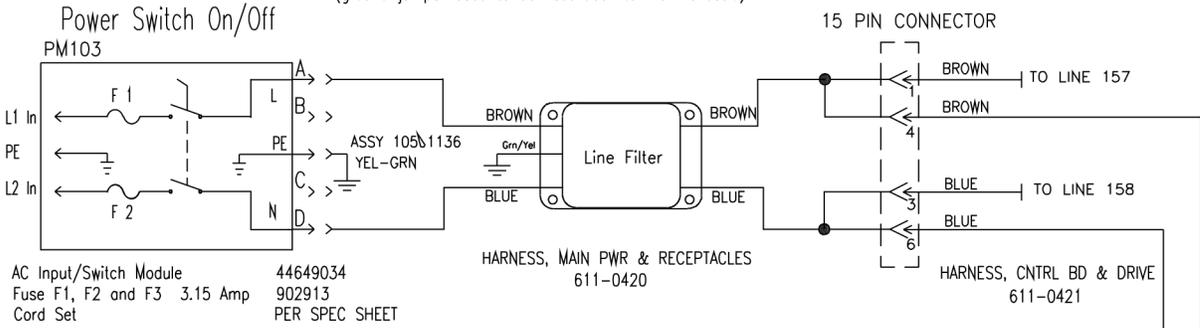
NOTE: R7 "ON-DELAY" ADJUSTS FOR 0-15 SEC DELAY.  
FACTORY DEFAULT SETTING IS 0 SEC.



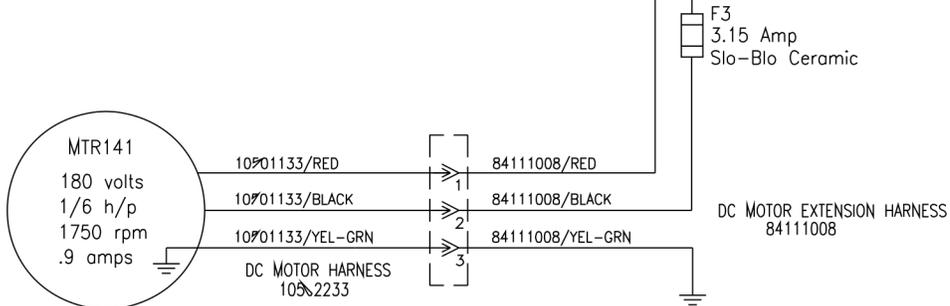
# 230V Assembly # 611-0419

NOT SHOWN ON SCHEMATIC:  
 17451110 Assy, Ground Wire  
 (ground jumper used to connect door to main chassis)

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NOTE: TRIMPOT SETTINGS SHOWN AS STARTING POINT  
 ADJUST "MIN" FOR NO MOTOR MOVEMENT WITH SPEEDPOT OFF  
 ADJUST "MAX" FOR 180 VDC @ MOTOR CONNECTOR WITH POT TURNED TO MAX







SUPPORT?



# SUPPORT?

PACIFIC LABELING & INTEGRATION



4189 Santa Ana, Suite C · Ontario, CA 91761 · USA

Tel: (909) 390-5631 · Fax: (909) 390-5150

Email: [info@pacificlabeling.com](mailto:info@pacificlabeling.com)

Web: [www.pacificlabeling.com](http://www.pacificlabeling.com)

