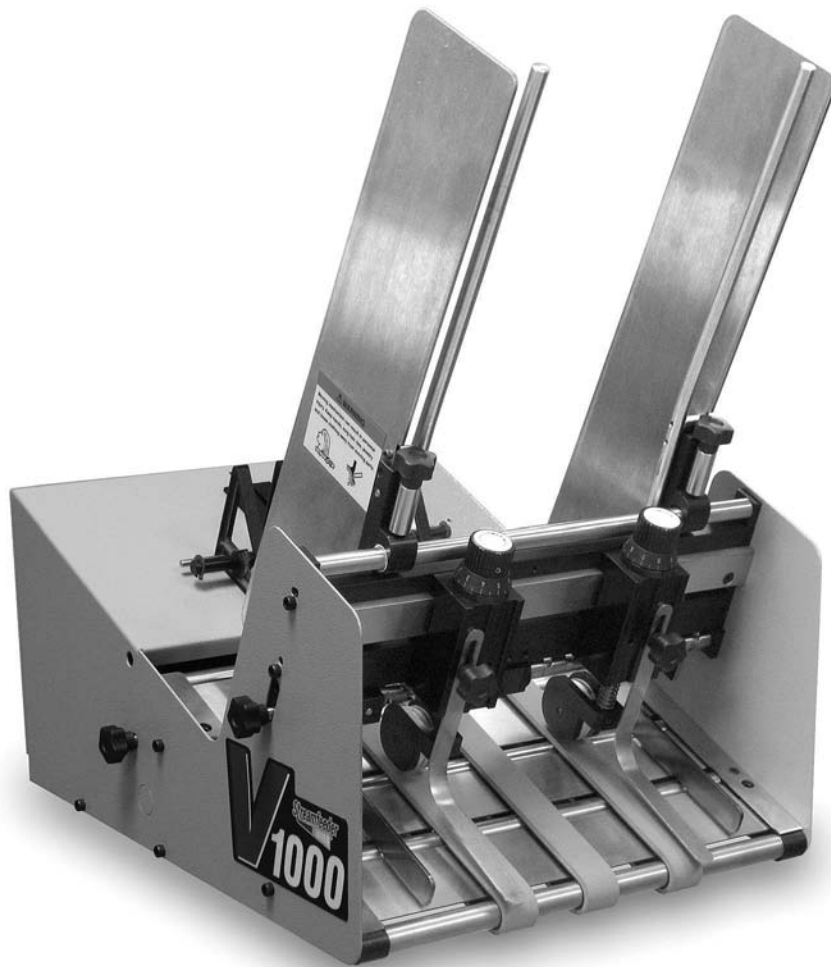


# Value Series V-1000

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## Manual



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**Thiele**  
Technologies  
A Barry-Wehmler Company

***Streamfeeder***  
®

Part Number: 900946

This manual supports feeder part numbers V1000Bxxx only.

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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.  
DANGER signifie qu'une action ou une partie spécifique de l'équipement peut entraîner une blessure grave, voire mortelle, si les précautions adéquates ne sont pas prises.



WARNING signifies an action or specific equipment area that can result in personal injury if proper precautions are not taken.  
AVERTISSEMENT signifie qu'une action ou une partie spécifique de l'équipement peut entraîner un préjudice corporel si les précautions adéquates ne sont pas prises.



CAUTION signifies an action or specific equipment area that can result in equipment damage if proper precautions are not taken.  
ATTENTION signifie qu'une action ou une partie spécifique de l'équipement peut entraîner des dommages à l'équipement si les précautions adéquates ne sont pas prises.



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.  
DANGER ÉLECTRIQUE signifie qu'une action ou une partie spécifique de l'équipement peut entraîner un préjudice corporel, voire la mort, si les précautions adéquates ne sont pas prises.



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.  
LES ÉTIQUETTES D'AVERTISSEMENT apposées à ce produit signifient qu'une action ou une partie spécifique de l'équipement peut entraîner une blessure grave, voire mortelle, si les précautions adéquates ne sont pas prises.

# SAFETY

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**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 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 Streamfeeder.

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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.**

**L'intérieur de l'équipement contient une alimentation électrique de 115 ou 230 Vc.a. en entrée. Tout contact corporel avec de hautes tensions peut provoquer une électrocution, pouvant entraîner une blessure grave, voire mortelle.**

# SPECIFICATIONS

---

<b>Maximum Product Size:</b>	12 in. W x 12 in. L (304.8 mm x 304.8 mm)
<b>Minimum Product Size:</b>	2 in. W x 3 in. L (50.8 mm x 76.2 mm)
<b>Min/Max Product Thickness:</b>	.003 in to 1.0 in. (.07 mm - 25.4 mm)
<b>Belt Speed:</b>	7800 ipm (19,812 cm/min)
<b>Drive:</b>	DC motor
<b>Electrical Requirements:</b>	115/230vac, 50/60Hz, 3A
<b>Multiple Voltage Interface Relay:</b>	24vac, 115vac, 5vdc, 12vdc, 24vdc
<b>Overall Dimensions:</b>	15.08 in W (383 mm) 20.47 in L (519.8 mm) 20.94 in H (532 mm)
<b>Weight:</b>	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

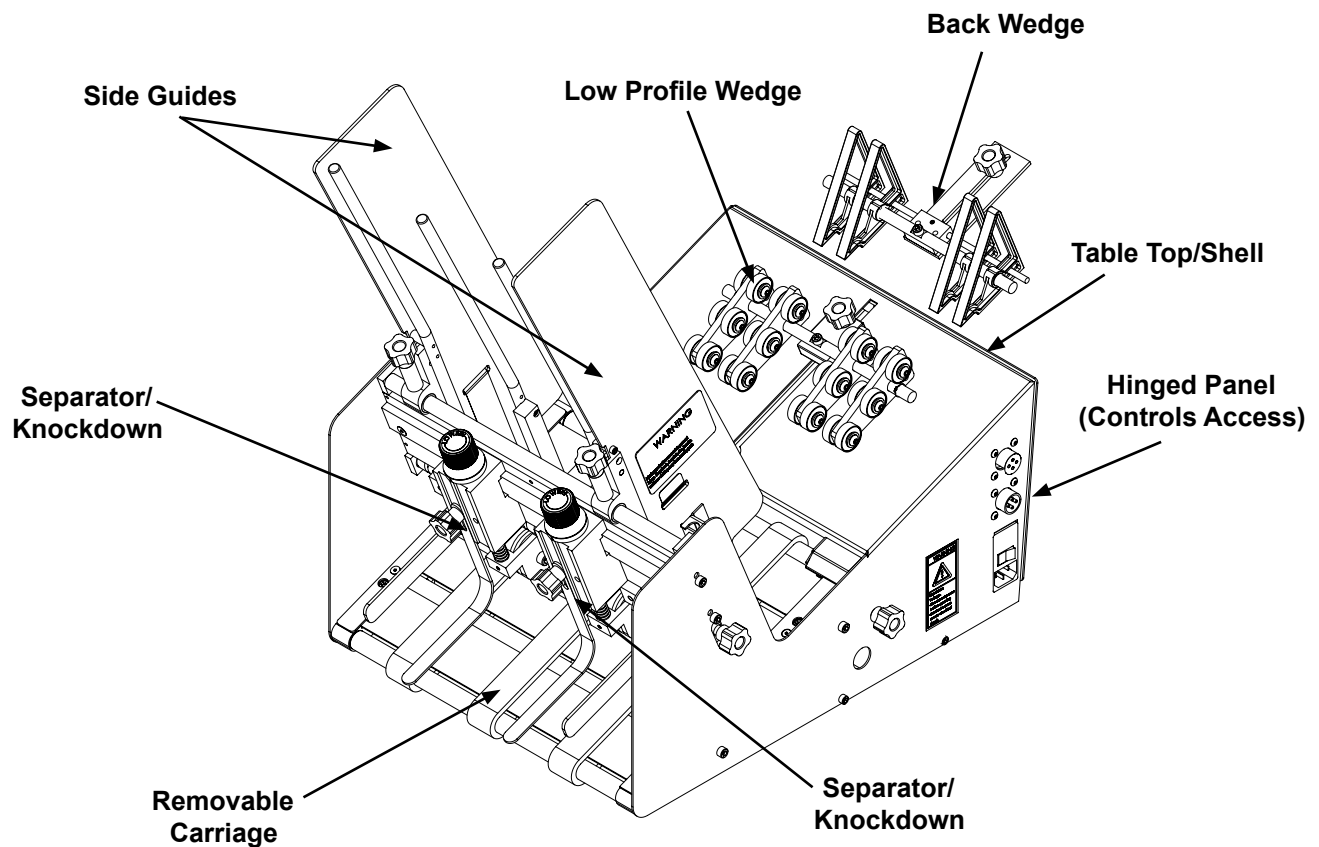
## Features

The V-1000 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



### Loose Parts Supplied:

- AC Power Cord
- Side Guides
- Product Guide
- External Run Input Cord (Optional)

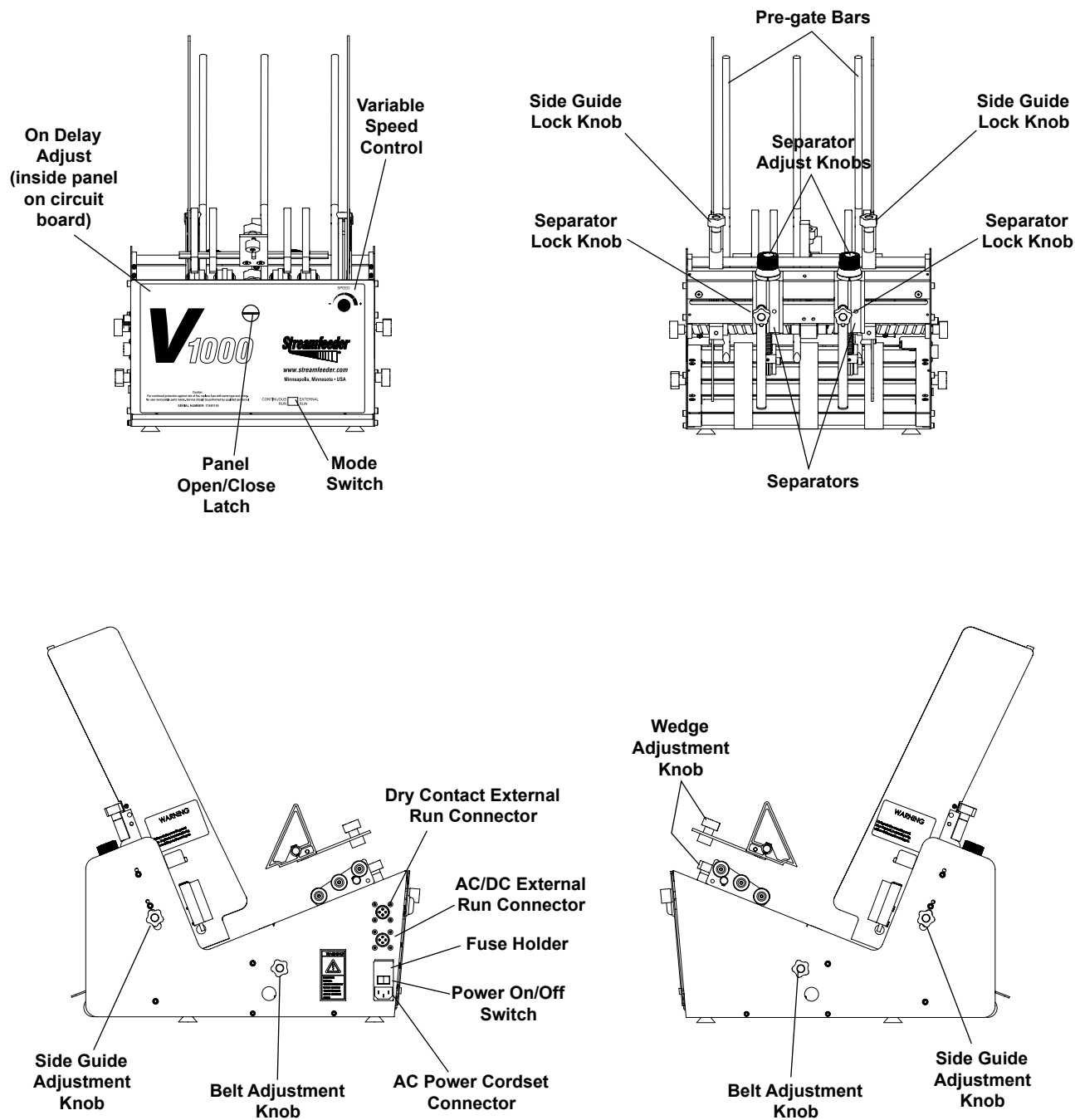


## Main Assemblies Feature Descriptions

Feature	Description
<b>Separator assembly and adjustment</b>	Single or double separators 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>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>Back 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 separator 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>Safety guard</b>	Clear polycarbonate shield helps to prevent injuries from moving parts while providing visibility to discharge area.
<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 separator 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.
<b>AC power cord, 8' (2.44m)</b>	IEC320 removal three-prong. Shipped loose.
<b>External run input (optional)</b>	This two-wire cable allows the feeder to be turned On or Off with the host base.
<b>Host interface relays</b>	Supplied kit allows for easy interface to host equipment. They include 24VAC, 115VAC, 5VDC, 12 VDC, and 24VDC.
<b>Product guide</b>	Provides all the information you need to efficiently operate and maintain the feeder.

# Control Features

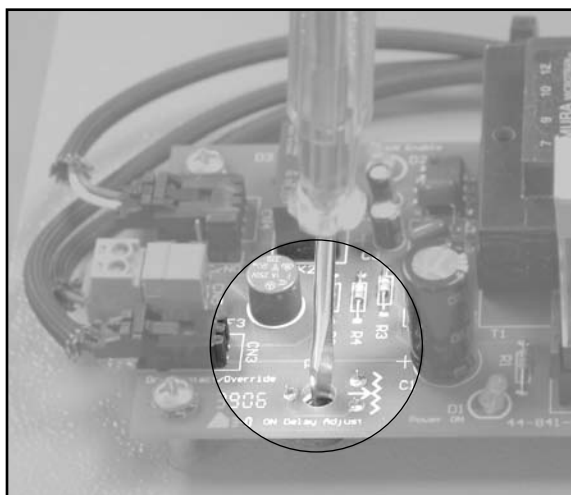
**TECHNICIAN**



## Control Panel Feature Descriptions

### TECHNICIAN

Feature	Description
<b>AC power cordset connector (optional)</b>	Cordset plugs into this IEC320 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>External run input connector</b>	This 4-pin connector (labeled <b>External Run Input</b> ) is used to carry start/stop signals from a vacuum or non-vacuum base to the feeder.
<b>Mode switch</b>	This slide switch (labeled <b>Continuous/External Run</b> ) allows you to use the feeder "stand- alone" or with the external run input interface.
<b>Dry contact external run</b>	Used to interface to host equipment, using the external run cable that is supplied with the unit. This interface would connect to the contact side of a coil (dry contact) in the host equipment.
<b>AC / DC external run</b>	Used to interface to host equipment, using the external run cable that is supplied with the unit. This interface would connect to Signal in the host equipment with the voltages supplied with the host interface relays.
<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>On delay adjust</b>	Used to delay (or synchronize) feeder startup with base startup. Range is adjustable from 0 to 12 seconds (factory set at 0 seconds). Located on circuit board on inside of panel. See photo below.



On Delay Adjustment

# 2 Installing the Machine

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## TECHNICIAN

This section provides information on installing the V-1000 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.

Lors d'une installation initiale, toujours s'assurer de placer l'interrupteur principal d'alimentation sur la position arrêt et de débrancher tout l'équipement de la source d'alimentation électrique. Le non respect de cette consigne peut exposer l'utilisateur à un démarrage potentiel et aux pièces mobiles qui peuvent provoquer des blessures graves.

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.

Ne pas essayer de procéder à l'installation du chargeur quand le chargeur et la machine de l'application sont en fonctionnement. Le non respect de cette consigne peut exposer l'utilisateur aux pièces mobiles qui peuvent provoquer des blessures graves. Ne pas porter de vêtements lâches en manœuvrant le chargeur.

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

Avant de mettre le chargeur sous tension ou de procéder à des réglages initiaux, fixer solidement toutes les pièces. Le non respect de cette consigne peut endommager l'équipement.



Included with your V-1000 230V feeder is a Allen Wrench Set (P/N 23511CCI). These tools are designated for Service Personnel only.

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## Vacuum Base Installation

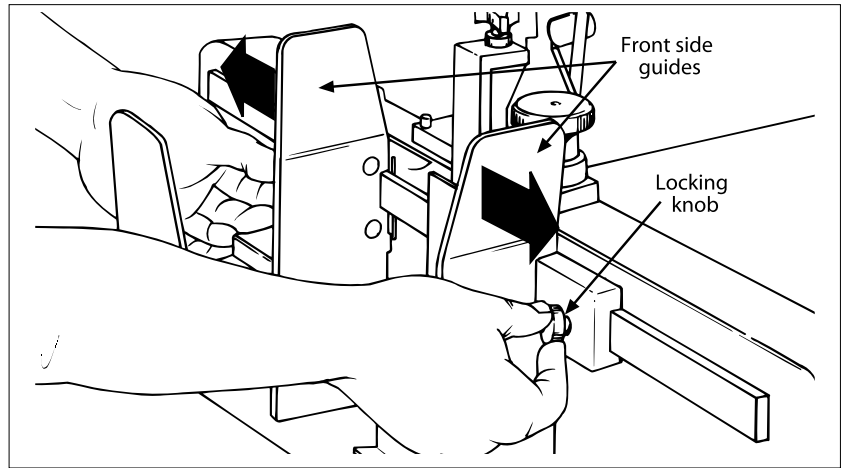
Installation of the V-1000 onto various types of vacuum and non-vacuum bases is a relatively simple procedure. Several minor modifications to the vacuum base are required prior to mounting, wiring, and aligning the feeder.

To install the feeder onto a 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 external run input
- 8: Checking product discharge from feeder

## STEP 1: Repositioning Front Side Guides

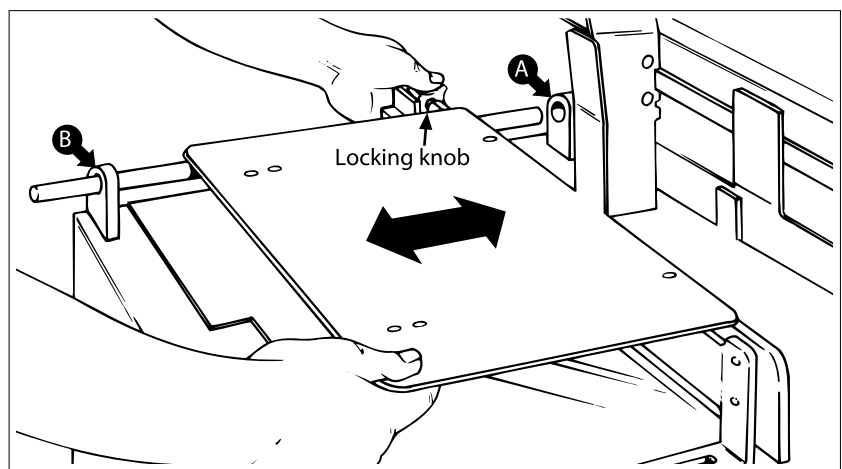
1. Loosen locking knobs at both side guides.
2. Slide each side guide to the outermost position. Do not lock in place.



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.



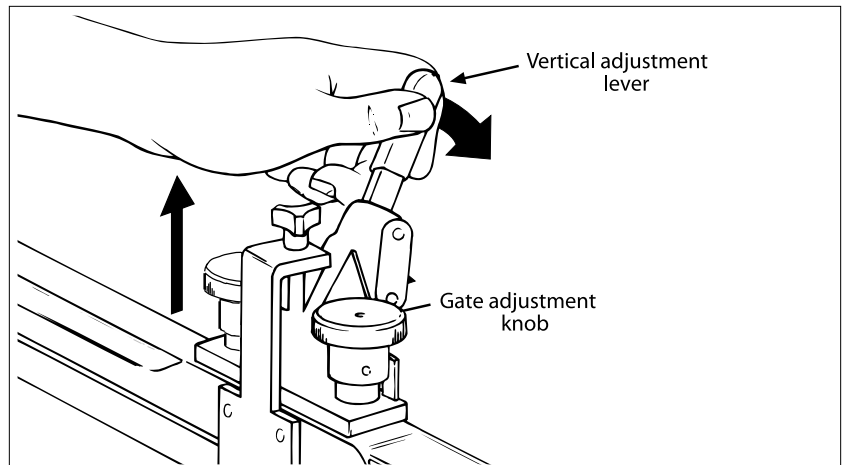
Back Jogging Plate/Back Hopper Guide Removal

## 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

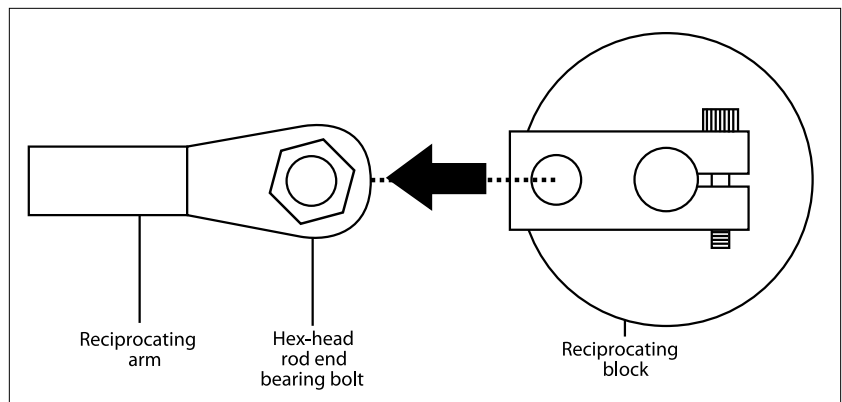
## STEP 4: Disabling the Shuttle



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).

Pour éviter tout démarrage par inadvertance du moteur de navette et éliminer le danger des pièces mobiles, débrancher la base d'aspiration de l'alimentation c.a. à la prise ou retirer le fusible d'alimentation c.a. (situé derrière le volet d'accès de la base d'aspiration).

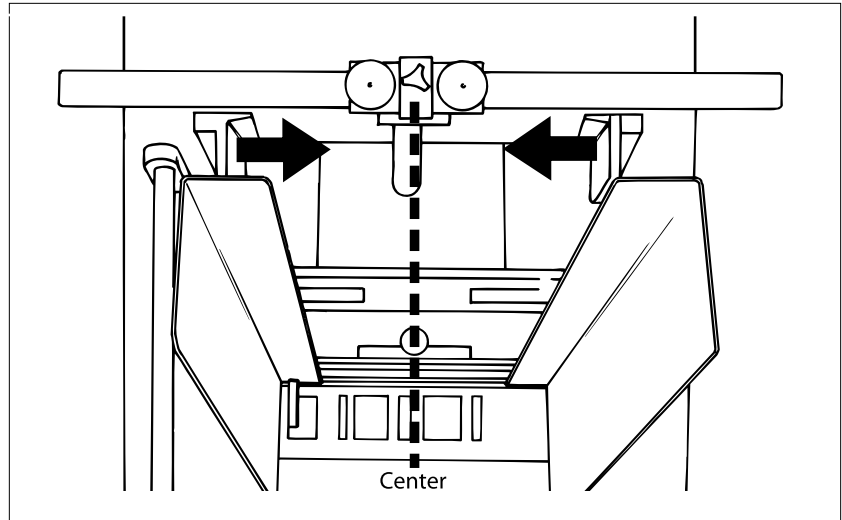
1. Remove side access panel from vacuum base enclosure.
2. Locate the reciprocating arm and reciprocating block directly beneath the underside of shuttle.
3. Using a box wrench, remove the hex-head rod end bearing bolt holding the reciprocating arm to the reciprocating block.
4. Once the bearing bolt 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

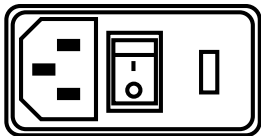
## STEP 5: Initial Positioning of Feeder

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 separator, 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.*

*In order to comply with EN 6100-4-5, the AC power line must be protected with a surge suppressor.*

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 External Run Input

### IMPORTANT

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



External Run Connectors

Using the external run cables supplied for host interface applications:

#### Dry Contact External Run

1. Ensure power is not applied and power cord is disconnected from feeder.
2. Connect the dry contact external run cable (P/N 84111011) to the top male four-pin threaded connector on the feeder.
3. At the host equipment, locate start/stop control circuit.
4. Route external run input cable from the feeder to this area.
5. Interface the leads of the interface cable to the host start/stop circuit. This involves splicing the black wire and white wire to the start/stop circuit.
6. Connect power cord to feeder.

#### AC/DC External Run

1. Ensure power is not applied and power cord is disconnected from feeder.
2. Connect the AC/DC external run cable (P/N 17451109) to the bottom female four-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. This involves splicing the black wire and white wire to the start/stop circuit.
6. The appropriate coil relay must be installed into the feeder. To do this, twist the lock mechanism quarter turn and 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.

#### Status Signal

1. 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 external run cable sets.

As product leaves the feeder separator cylinder, the trailing edge



## STEP 8: Checking Product Discharge from Feeder

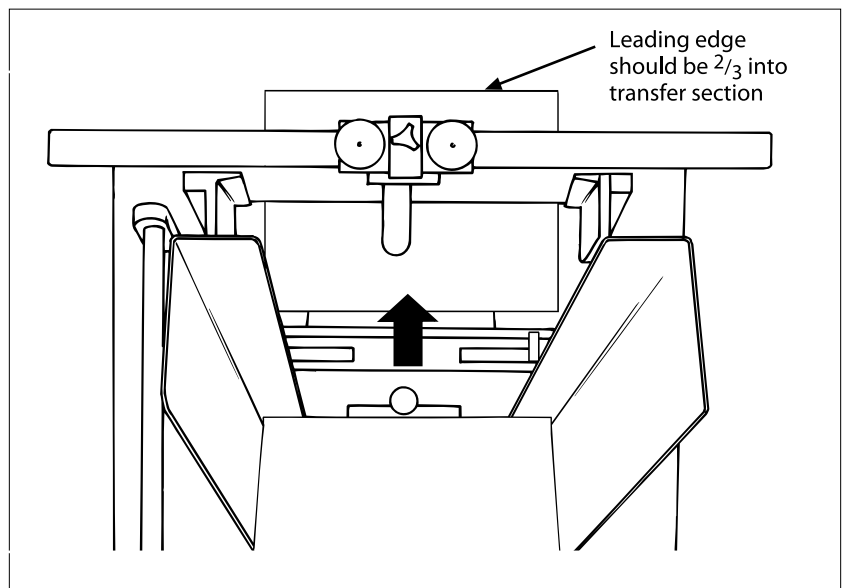
must be under the hold-down as the leading edge is entering the vacuum base transfer section. *In other words, there must be a good transfer of product from the feeder hold-down to the vacuum base transfer section.*

To verify:

1. Slide feeder back far enough to clear the vacuum base side guides. *If necessary, loosen the knobs 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  $\frac{2}{3}$  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

**TECHNICIAN**

**OPERATOR**

Once the V-1000 is installed on your host system, you are then ready to prepare the machine for operation. To do so, you must perform several adjustments with the product you are going to be feeding. And, you must do a test run with this product to verify that it is set correctly before you begin cycling the feeder. *You will have to perform this procedure for product you plan to feed.*

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

- 1: Lateral feed belt adjustment
- 2: Separator/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.

Lors des réglages initiaux du chargeur avant le fonctionnement, s'assurer de toujours mettre l'interrupteur principal d'alimentation sur la position arrêt et de débrancher tout l'équipement de la source d'alimentation électrique. Le non respect de cette consigne peut exposer l'utilisateur à un démarrage potentiel et aux pièces mobiles qui peuvent provoquer des blessures graves.

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.

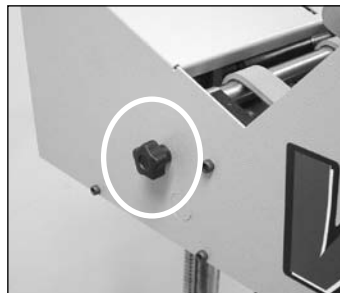
Ne pas essayer de procéder à des réglages quand le chargeur et la machine de l'application sont en fonctionnement. Le non respect de cette consigne peut exposer l'utilisateur aux pièces mobiles qui peuvent provoquer des blessures graves. Ne pas porter de vêtements lâches en manœuvrant le chargeur.

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

Éviter de procéder à des réglages sur des pièces desserrées ou mal fixées. Ceci peut endommager les pièces.

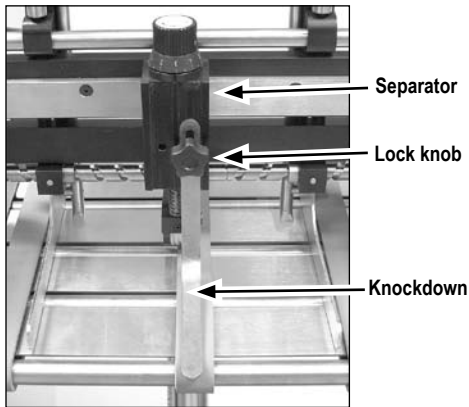
## STEP 1: Lateral Feed Belt Adjustment

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.

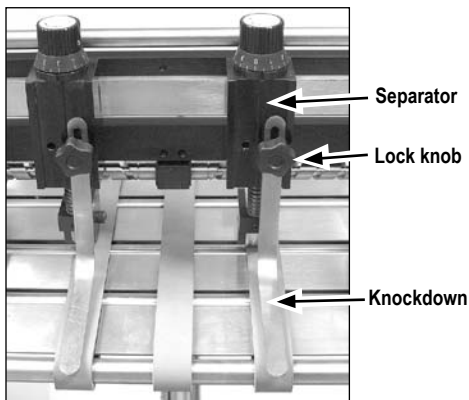


Belt adjustment knob

## STEP 2: Separator/Knockdown Adjustment



Single separator over the middle belt



Two separators over the outer belts



Excessive lowering of the separator assembly can damage product or lead to premature wear of the O-rings or feed belts.  
*Un abaissement excessif de l'assemblage du séparateur peut endommager le produit et provoquer une usure prématurée des anneaux toriques ou des courroies d'alimentation.*

### TIP

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

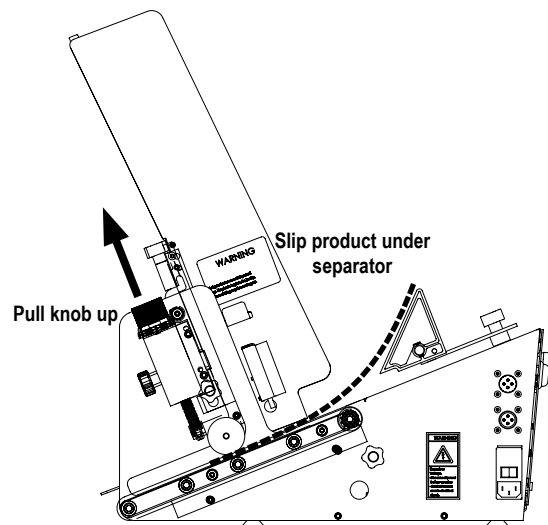
### NOTE

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

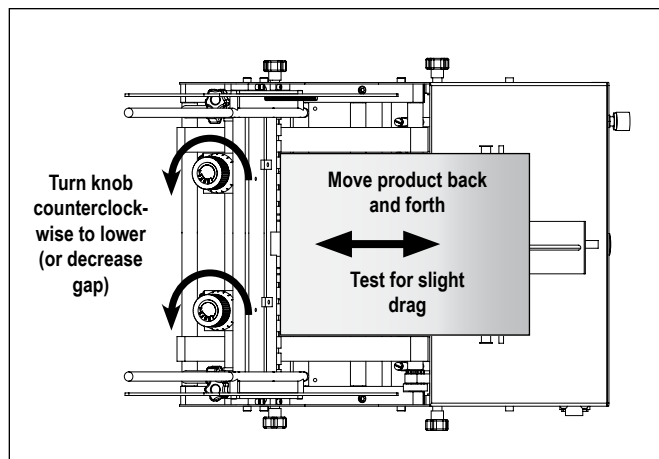
When feeding product with varying thickness, it may be necessary to adjust the two separators individually for the different thicknesses.

Decide whether one or two separators 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 separator (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 separator.
3. Rotate the separator adjustment knob either up or down until the product can be pulled from under the separator assembly with a slight amount of drag.
4. Repeat the drag tests and adjust as needed to achieve acceptable clearance.
5. When using two separators, position each separator and repeat steps 1 through 4.

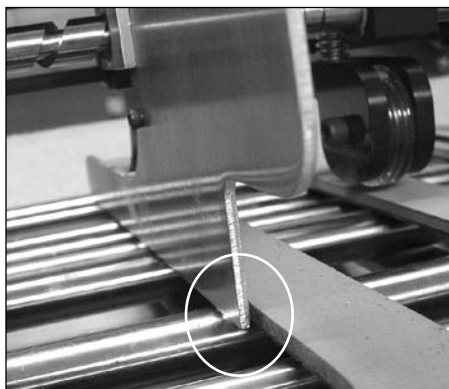


Lift separator assembly upward to insert product

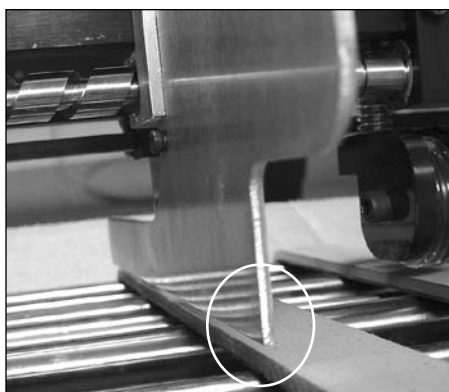


Use one piece thickness to set gap

## STEP 3A: Side Guide Adjustment

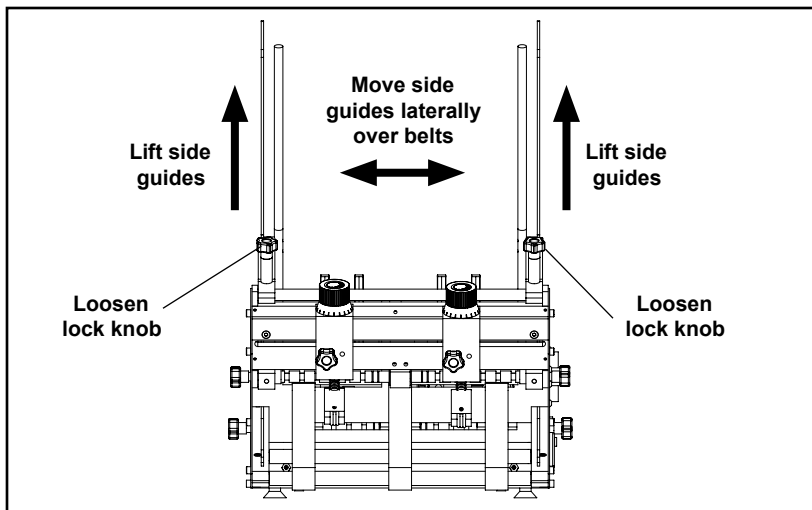


Side guide in down position

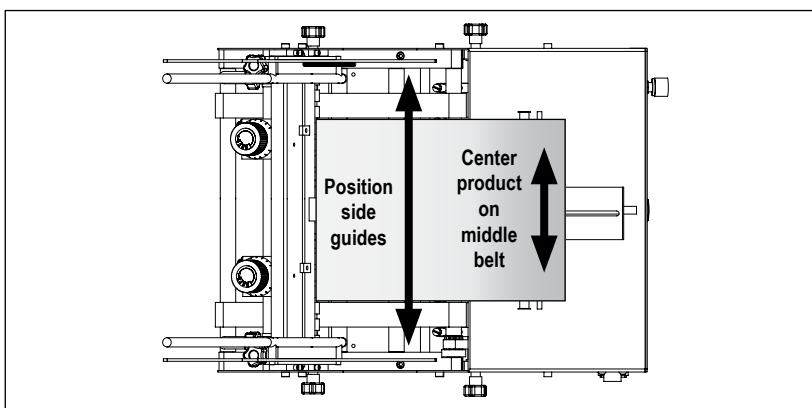
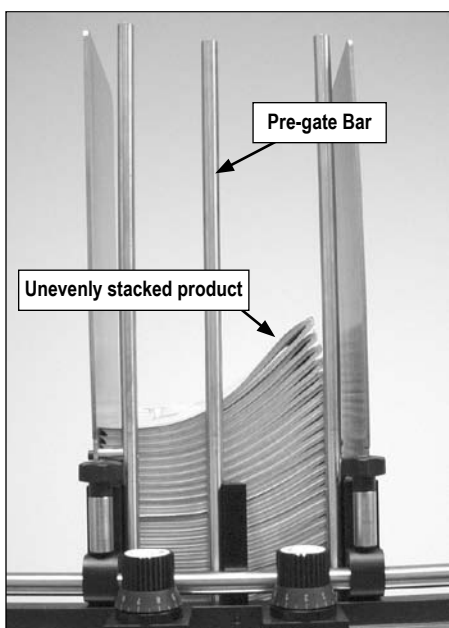


Side guide in up position

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  $\frac{1}{2}$  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.



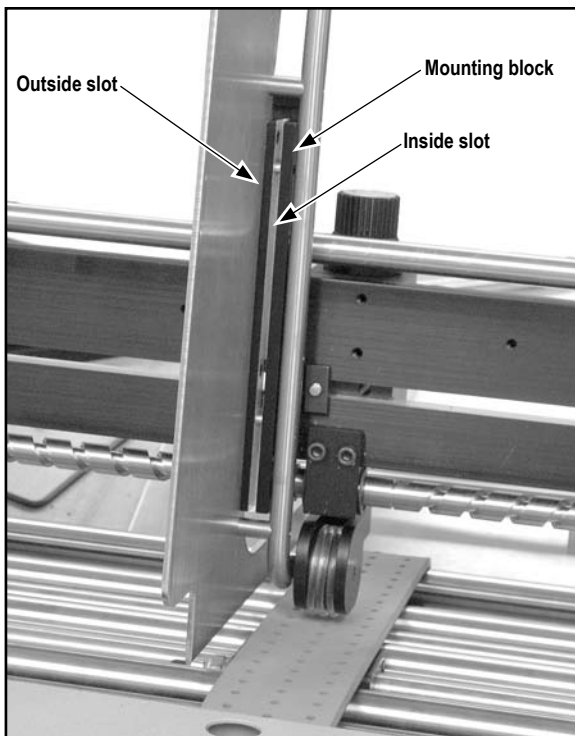
3. Center the product to be run on the middle belt and position both side guides close to the edge of the product (approximately  $\frac{1}{16}$ th inch) by turning the side guide adjustment knobs.
4. Place a handful of pre-shingled product in the hopper and against the separator(s).
5. Test run to assure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



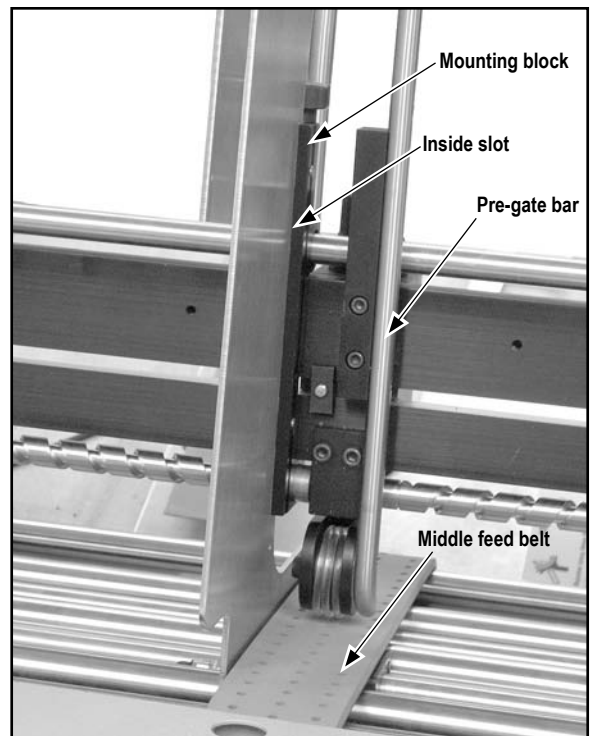
7. Use the pre-gate bar for product that stacks unevenly in the hopper. It will hold product in place to keep it from falling through the center area of the hopper. Refer to the Hopper Assembly diagram in the Mechanical Components section for installation.

## STEP 3B: Side Guide Adjustment Using Small Product Kit

1. Remove the left and right side guides from the outside slot positions of the mounting blocks.
2. Install each of the small product kit side guides into the inside slots of the left and right mounting blocks.
3. Install the pre-gate bar on the center of the gate plate.
4. Position one of the two separators over the center of the middle belt.
6. Install the extended narrow wedge assembly.



Standard side guide in the outside slot position.



Small product side guide in the inside slot position with pre-gate bar installed on center of gate plate.

## STEP 4: 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 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 separator assembly to provide the proper lift, curvature of the product, and proper belt/product contact to separate and feed one sheet at a time.*

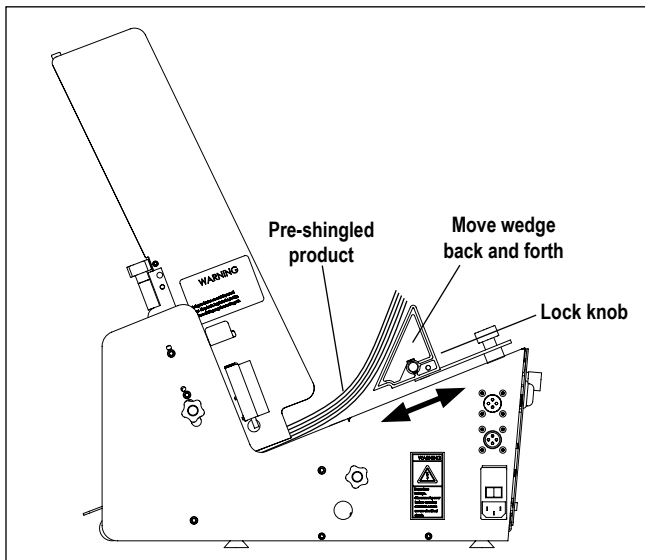


*There are a number of feeding problems which can be solved by simply adjusting the back wedge to different positions. Some of these problems include double feeds, skewing, twisting, poor singulation, ink or varnish buildup on the belts, and jamming at the separator assembly area.*

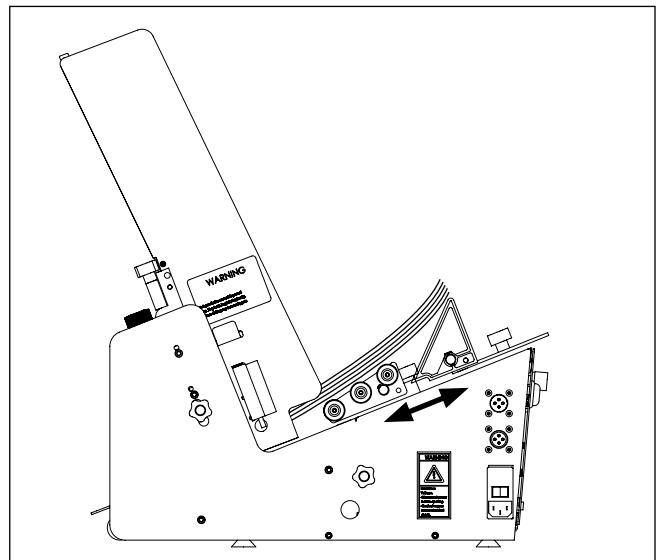
## Procedure

Adjust the back 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 separator 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 back 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 separator assembly area.



*If the separator assembly is too tight, the feeder will have difficulty pulling the product 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 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 separator assembly.

1. With the power off, manually feed several pieces of product slowly through the separator assembly area.
2. Observe how individual products 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 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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**TECHNICIAN**

**OPERATOR**

This section provides a *sequence of operation* for the V-1000. 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 separator assembly at startup.*

1. Start by preshingling by hand a small stack of product 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 product 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

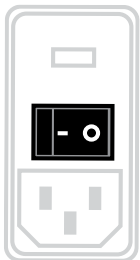


*Stack height affects the downward pressure on the feed belts. Greater downward pressure can increase the chances for double feeds.*

1. Gradually add more product to the hopper after the initial stack is formed around the separator 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 external run 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 separator 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 separator 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 separator assembly area.
- Product is not skewing.
- Effective preshingling is occurring at curvature of separator assembly.
- Product is not being damaged during cycling.
- Feeder is secured and will not move during operation.

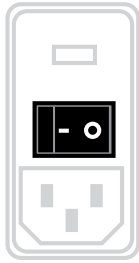
## Clearing a Jam

If a jam occurs during operation, follow these steps:

1. Turn the feeder power Off by pushing the circle (○) 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.

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## 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. Cover the feeder with a cloth or plastic tarp to prevent dust and debris from accumulating.

# 5 Troubleshooting

## TECHNICIAN

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

Problem	Cause	Solution
<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 external run input connection or cable.</li> </ol>	<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> <p>Check and secure cable connections. Replace if necessary.</p>
<b>Feeding doubles</b>	<ol style="list-style-type: none"> <li>1. Separator 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 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 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 Page 23: "Cleaning Feed and Discharge Belts".</p> <p>Review product loading procedure and back wedge adjustment procedure.</p>

## Troubleshooting (continued)

Problem	Cause	Solution
<b>Feed belts are operating, but product not feeding (continued)</b>	5. Separator assembly may be down too tight.	Review separator assembly adjustment procedure.
	6. Too much weight in hopper.	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>• separator 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 separator(s) horizon.	Review back wedge adjustment procedure. Review separator assembly adjustment procedure.

# 6 Inspection and Care

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## TECHNICIAN



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.

Lors des réglages initiaux du chargeur avant le fonctionnement, s'assurer de toujours mettre l'interrupteur principal d'alimentation sur la position arrêt et de débrancher tout l'équipement de la source d'alimentation électrique. Le non respect de cette consigne peut exposer l'utilisateur à un démarrage potentiel, donc aux pièces mobiles qui peuvent provoquer des blessures graves.

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.

Ne pas essayer de procéder à des réglages quand le chargeur et la machine de l'application sont en fonctionnement. Le non respect de cette consigne peut exposer l'utilisateur aux pièces mobiles qui peuvent provoquer des blessures graves. Ne pas porter de vêtements lâches en manœuvrant le chargeur.

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

Éviter de procéder à des réglages sur des pièces desserrées ou mal fixées. Ceci peut endommager les pièces.

Please read this Section to learn how to:

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

## Visual Inspection

### 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:

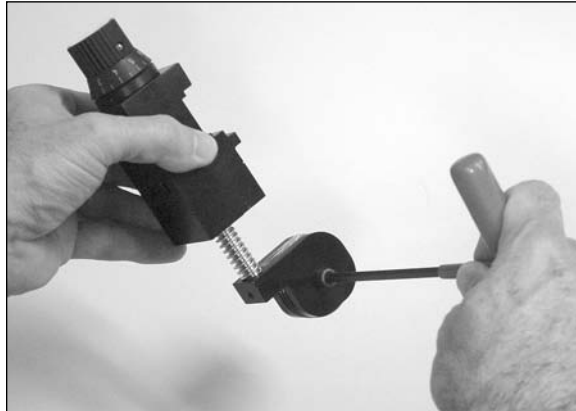
- Flat areas along the O-rings.
- Gum-like material build-up around separating surface.

## Visual Inspection (continued)

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

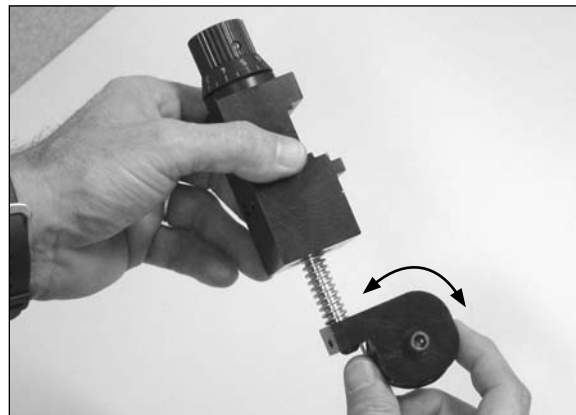
To adjust worn O-rings:

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

Utiliser uniquement de l'alcool isopropylique. Les autres solvants peuvent entraîner l'usure prématurée des courroies et même provoquer une rupture totale du matériel.

### *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



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 products:*

- 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, 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 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. Using a dry cloth, go back and wipe all surfaces to ensure they are dried.
6. 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").*

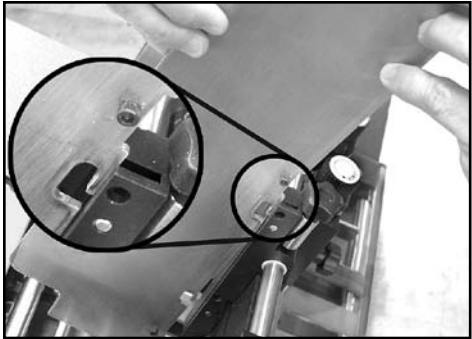
# Carriage Feed Belt Replacement

## Removal

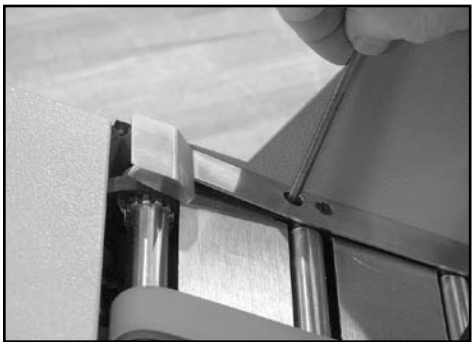
The procedure for feed belt replacement requires the removal of the side guides, carriage safety guard and the carriage.

### 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.



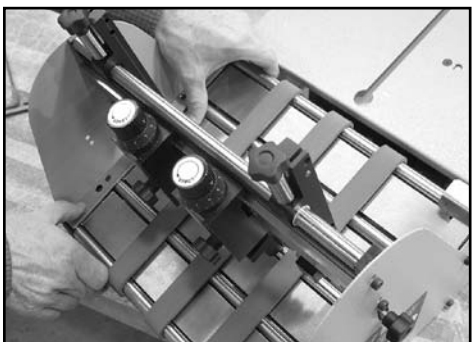
Remove the side guides.



Remove carriage mounting bolts.

### Carriage:

2. Remove the 4 bolts securing the carriage blocks.

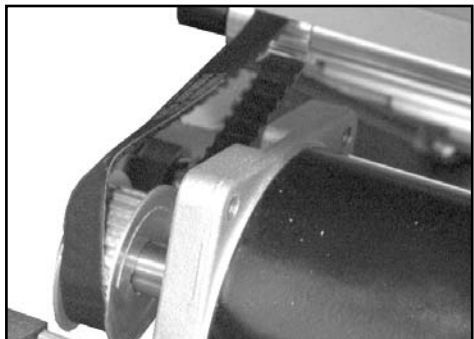


Pull carriage toward motor.

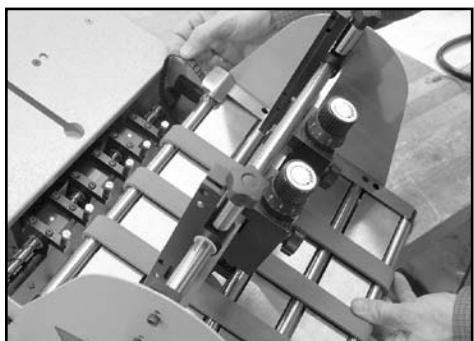
3. Pull the carriage toward the motor. This loosens the timing belt to allow you to disengage the belt.



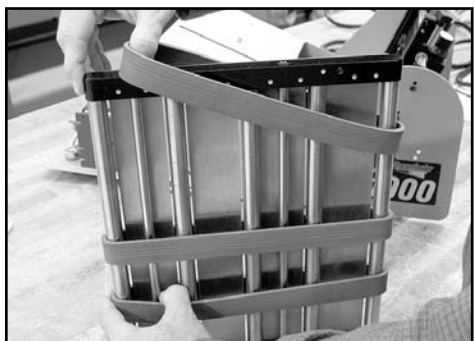
## Carriage Feed Belt Replacement (continued)



Disengage timing belt.



Remove carriage.



Remove the belts.

### Removal

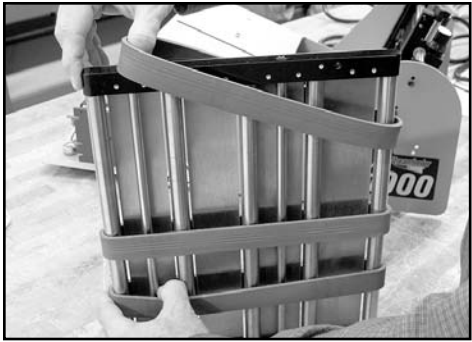
4. Disengage the timing belt by slipping it over the motor pulley.

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

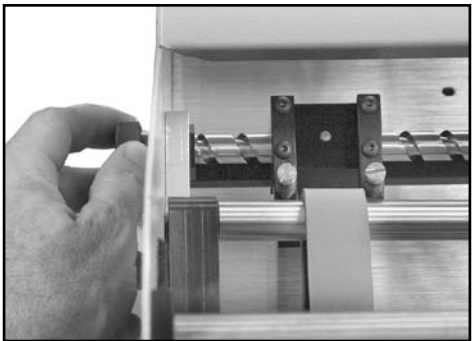
### Feed Belts:

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.

### Carriage Safety Guard:

7. Position the guard and reinstall the 2 shoulder bolts and sleeves on each side of the guard.

### Side Guides:

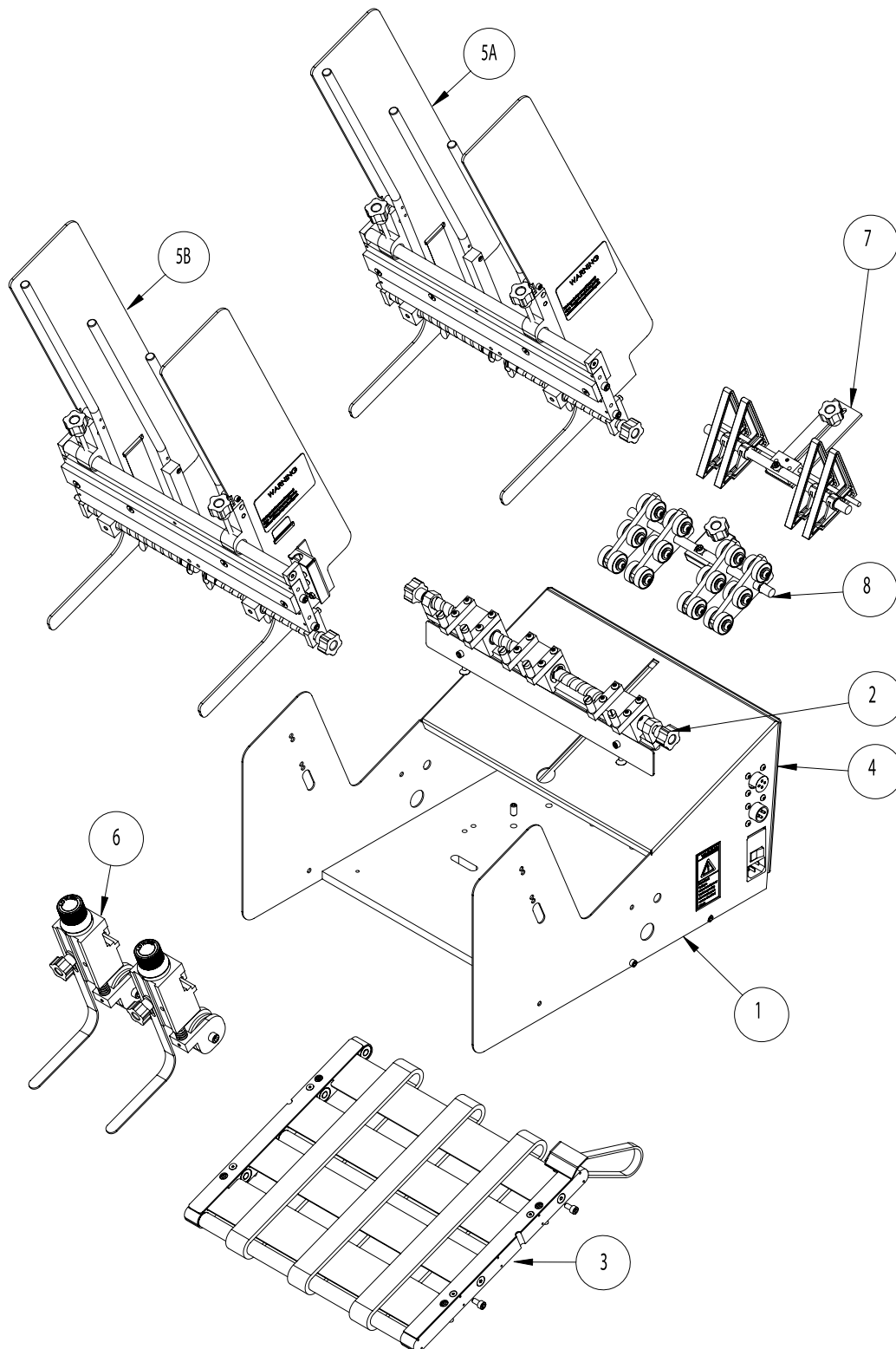
8. Re-attach both side guides.



# 7 Mechanical Components

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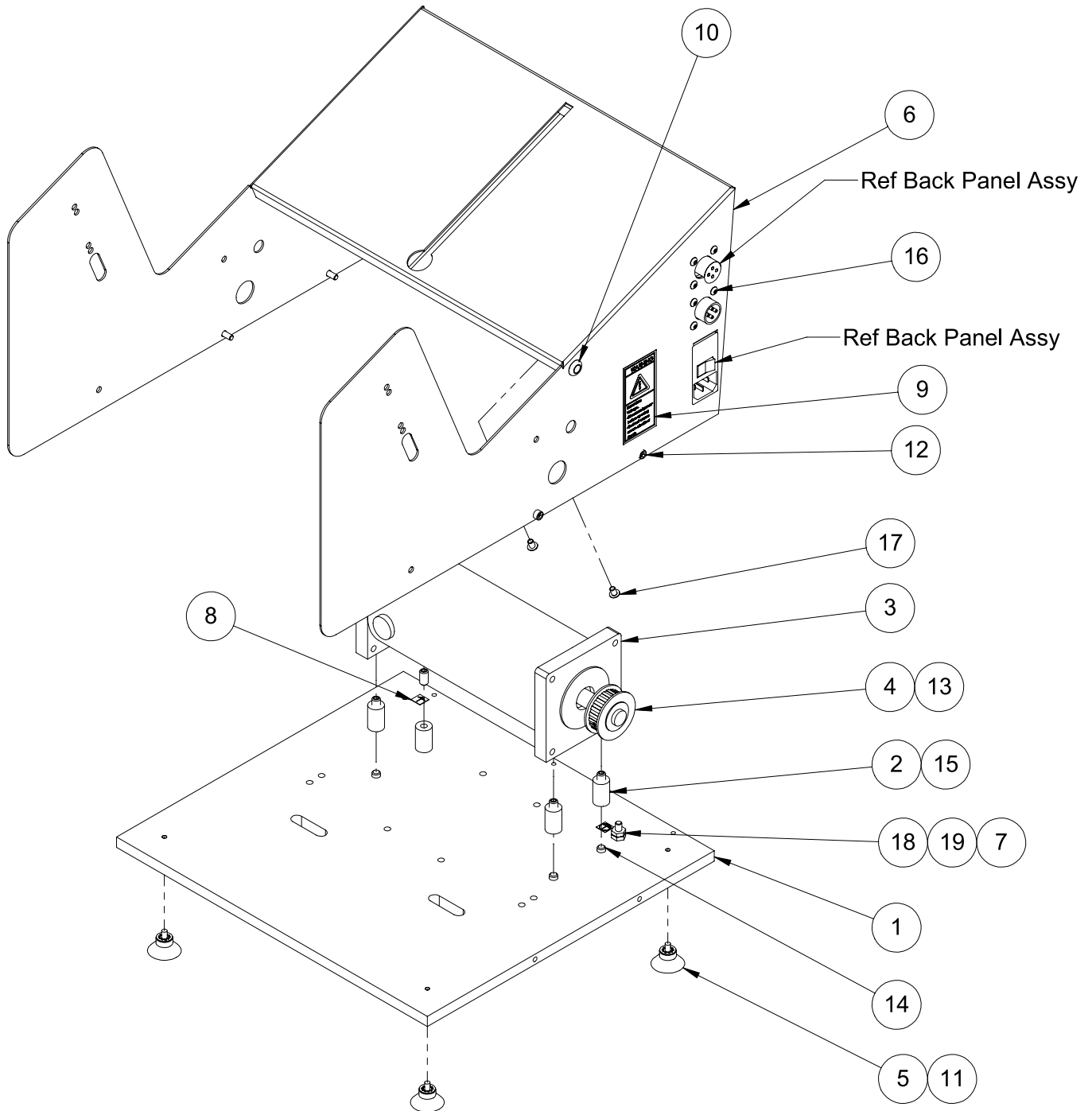
## V-1000



## **V-1000**

<b><u>ITEM</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PART NUMBER</u></b>
1	BASE ASSEMBLY (115V)	311-0170
	BASE ASSEMBLY (230V)	311-0179
2	BELT ADJUSTMENT ASSEMBLY	17451106
3	CARRIAGE ASSEMBLY	311-0171
4	BACK PANEL ASSEMBLY (115V, CE)	311-0177
	BACK PANEL ASSEMBLY (230V, CE)	311-0181
	BACK PANEL ASSEMBLY (115V)	17451108
	BACK PANEL ASSEMBLY (230V)	17451116
5A	HOPPER ASSEMBLY	17451103
5B	HOPPER ASSEMBLY (115V)	311-0172
	HOPPER ASSEMBLY (230V)	311-0178
6	GATE ASSEMBLY	18051103
7	WEDGE ASSEMBLY	17451105
8	LOW PROFILE WEDGE ASSEMBLY	17451117
Not Shown	SMALL PRODUCT KIT	311-0018

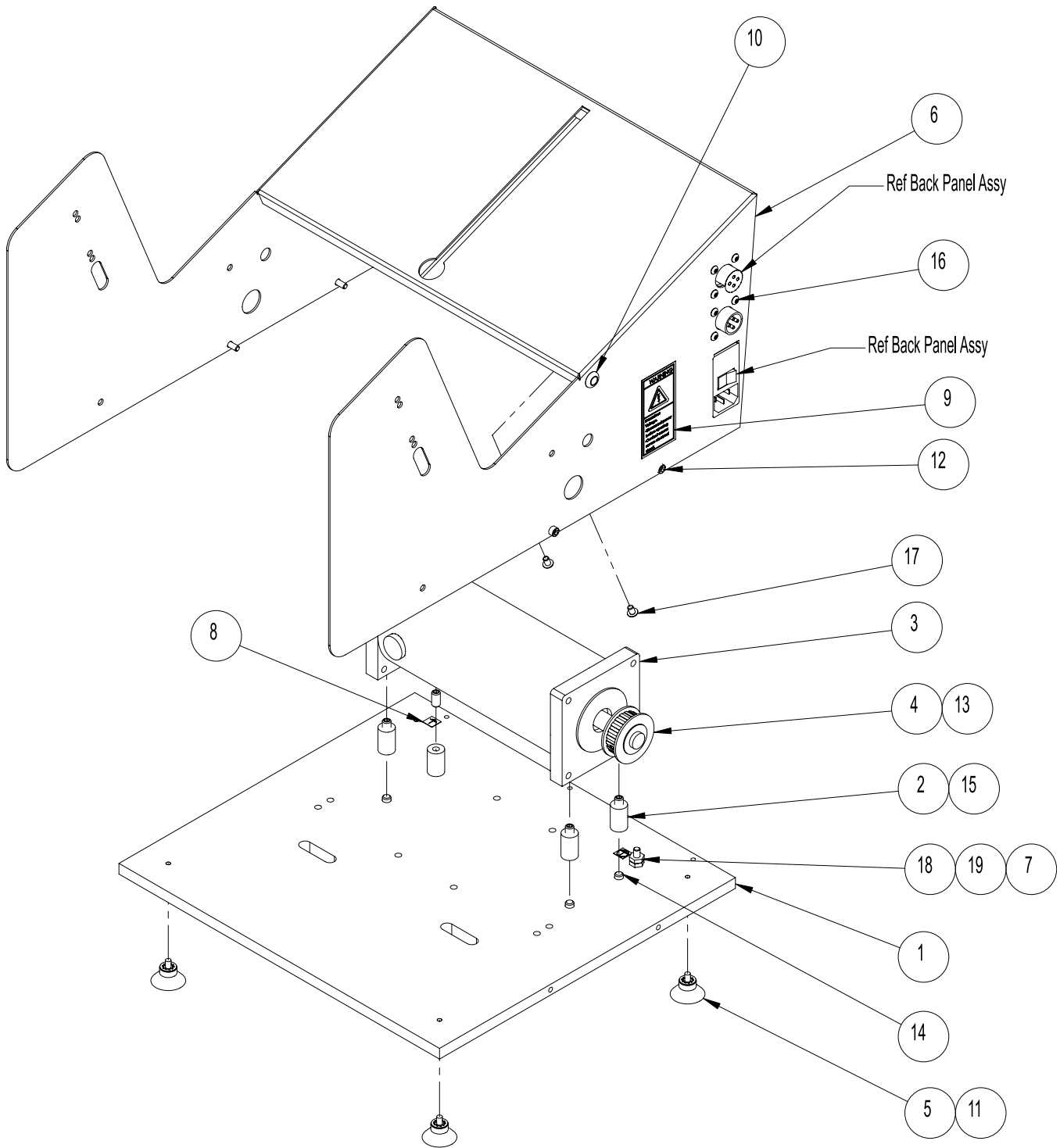
**BASE ASSEMBLY (115V)**  
**Assembly # 311-0170**



**BASE ASSEMBLY (115V)**  
**Assembly # 311-0170**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745054	PLATE, BASE
2	4	51745076	Motor Stand Off
3	1	10501133	Assy, Motor 90VDC V710
4	1	44681027	PULLEY, 21 TOOTH
5	4	44846058	FOOT, SUCTION CUP
6	1	900934	SHELL
7	1	51310009	Lable, Ground Symbol
8	1	900739	Label, Ground Earth
9	1	900801	Label Hazardous
10	2	1130	Gromet
11	4	103239B04	LW, 1/4 INTERNAL TOOTH
12	4	102685B02	SHCS 8-32 X .38
13	2	102732B03	SSSCPPT #10-32 X 1/4
14	4	102638B03	FHCS 1/4-20 X 1/2
15	4	102733B07	SSSCPPT 1/4-20NC X .50
16	8	102705B01	BHCS #6-32 X 1/4
17	2	102706B01	BHCS 8-32 X .25
18	2	600623B04	#10 KEP NUT
19	1	102637B14	FHCS #10-32 X .88LG

**BASE ASSEMBLY (230V)**  
**Assembly # 311-0179**



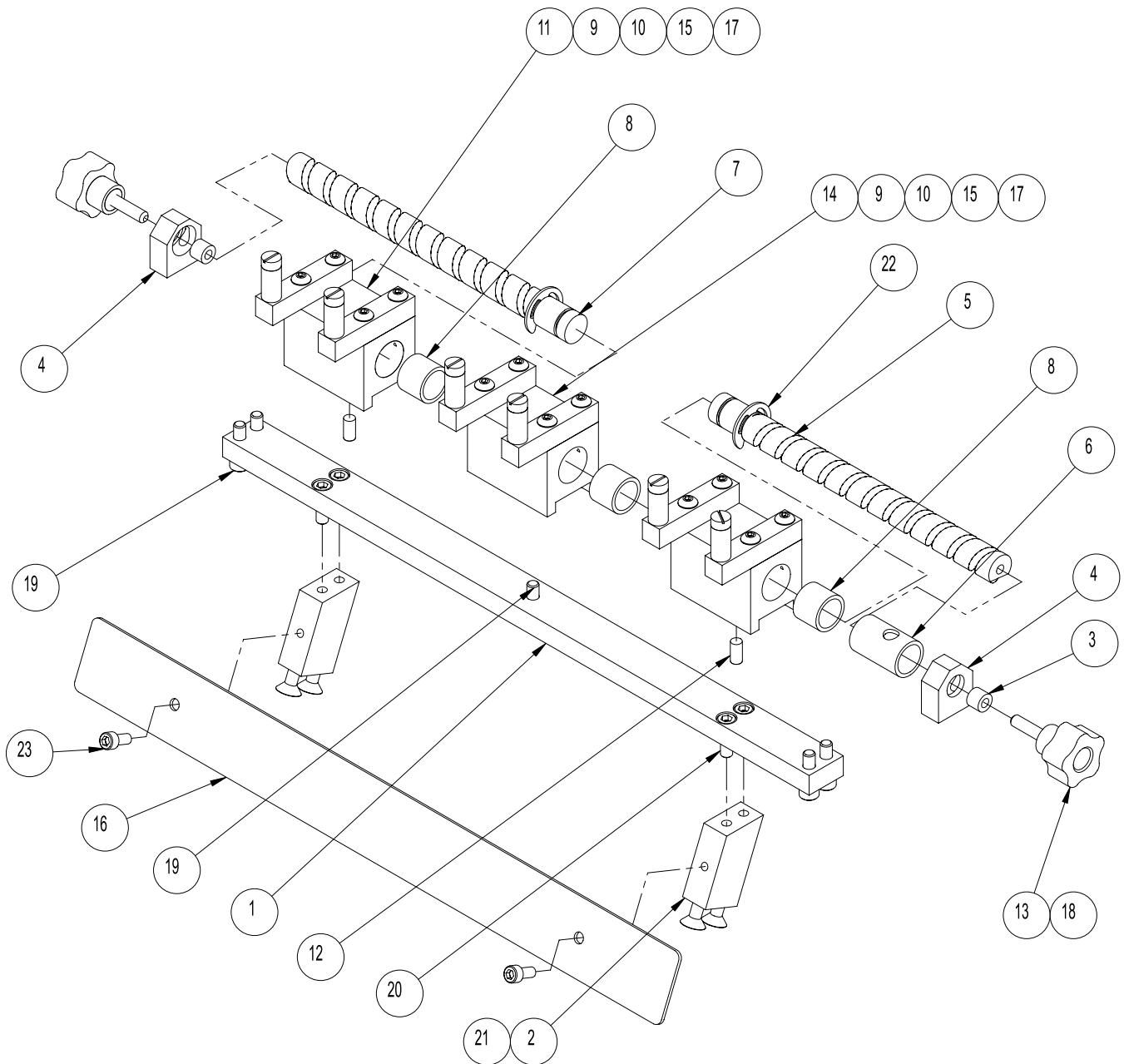


**BASE ASSEMBLY (230V)**  
**Assembly # 311-0179**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745054	PLATE, BASE
2	4	51745076	Motor Stand Off
3	1	10502233	Assy, Motor 180VDC V710
4	1	44681027	PULLEY, 21 TOOTH
5	4	44846058	FOOT, SUCTION CUP
6	1	900934	SHELL
7	1	51310009	Lable, Ground Symbol
8	1	900739	Label, Ground Earth
9	1	900801	Label Hazardous
10	2	1130	Gromet
11	4	103239B04	LW, 1/4 INTERNAL TOOTH
12	4	102685B02	SHCS 8-32 X .38
13	2	102732B03	SSSCPPT #10-32 X 1/4
14	4	102638B03	FHCS 1/4-20 X 1/2
15	4	102733B07	SSSCPPT 1/4-20NC X .50
16	8	102705B01	BHCS #6-32 X 1/4
17	2	102706B01	BHCS 8-32 X .25
18	2	600623B04	#10 KEP NUT
19	1	102637B14	FHCS #10-32 X .88LG

# **BELT ADJUSTMENT ASSEMBLY**

## **Assembly # 17451106**

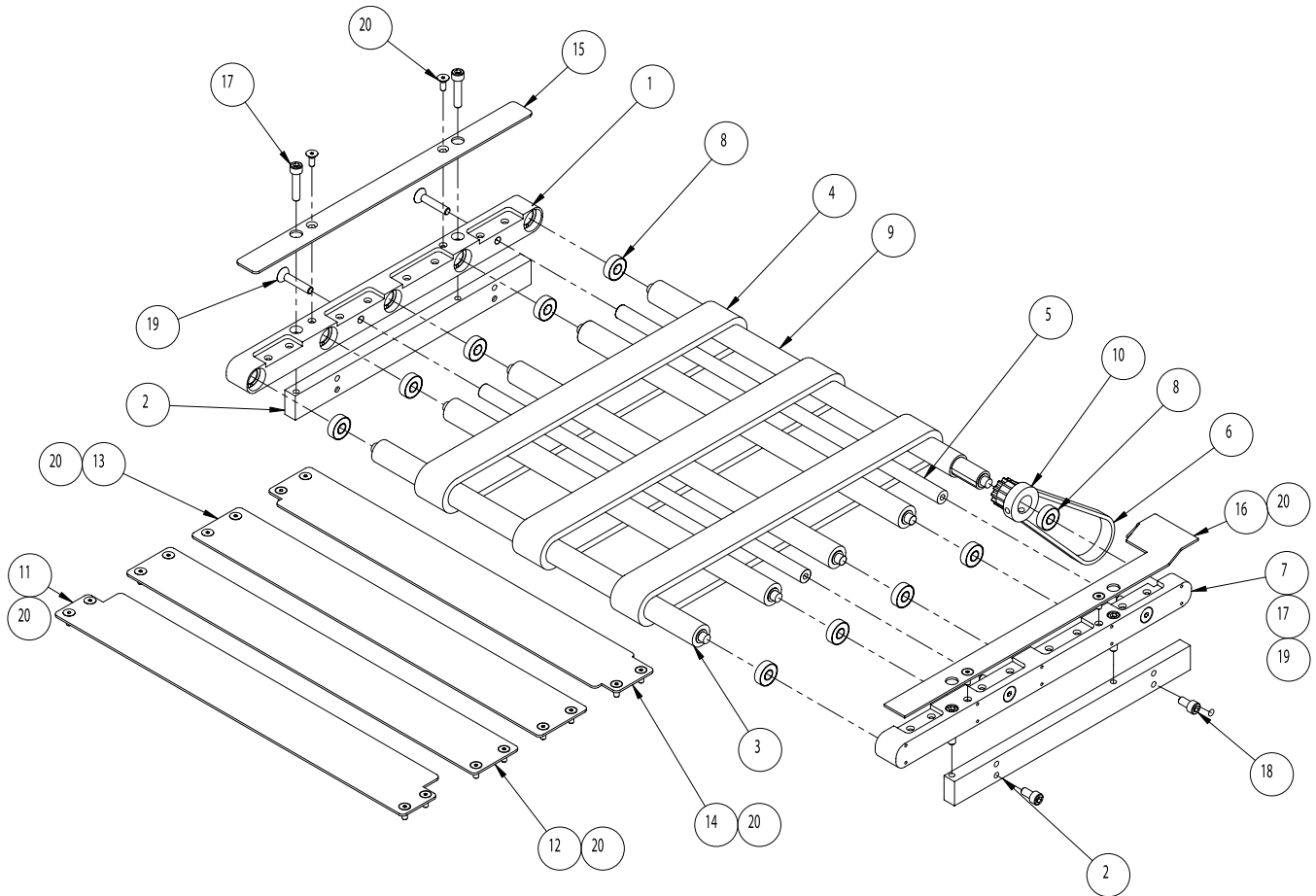


**BELT ADJUSTMENT ASSEMBLY**  
**Assembly # 17451106**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745030	MOUNT, SLIDE
2	2	51745038	BLOCK, STAND
3	2	51745042	SPACER, LEAD SCREW
4	2	51745041	BLOCK, END
5	1	51745040	SCREW, LH LEAD
6	1	51745075	BUSHING OILITE
7	1	51745039	SCREW, RH LEAD
8	6	51460088	Sleeve, Igus Bearing
9	6	51745065	BRACKET, BELT
10	6	51745064	SPACER, BELT
11	2	51745043	BLOCK, ROLLER
12	2	51745067	PIN, DOWEL
13	2	44963102	Knob, 5 Lobe 1dia 10-32
14	1	51745028	BLOCK, CENTER
15	6	44748008	SHOULDER BOLT
16	1	900704	Protective Cover
17	12	102706B03	BHCS #8-32 X 1/2
18	2	102732B12	SET SCREW, #10-32 X 1-1/4
19	5	102688B04	SHCS #10-32 X 5/8
20	4	102688B03	SHCS #10-32 X 1/2
21	4	102637B05	FHCS #10-32 X 3/4
22	2	104308B02	E-CLIP 1/2
23	2	102685B02	SHCS 8-32 X .38

# **CARRIAGE ASSEMBLY**

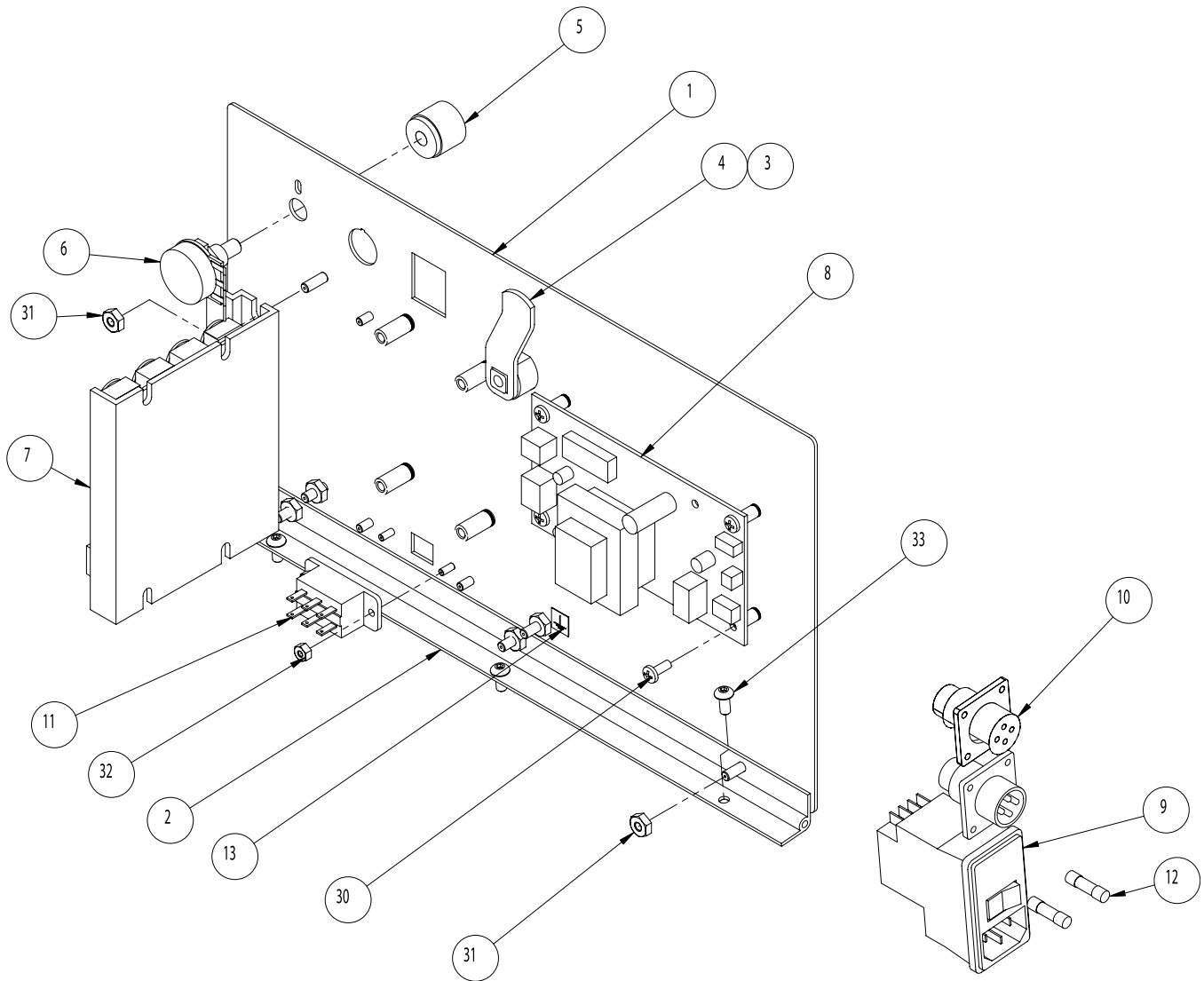
**Assembly # 311-0171**



**CARRIAGE ASSEMBLY**  
**Assembly # 311-0171**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	900935	Block, RH
2	2	51745055	MOUNT CARRIAGE
3	4	51745032	SHAFT, SUPPORT
4	3	51745035	BELT, GUM FEED
5	2	51745071	SHAFT CARRIAGE SUPPORT
6	1	435BG107	Belt, Timing 110XL037
7	1	900936	Block, LH
8	10	44582021	R4 BEARING
9	1	51745019	SHAFT, LOWER
10	1	43555302	12T TIMING PULLY
11	1	900939	Cover
12	1	900940	Cover
13	1	900941	Cover
14	1	900942	Cover
15	1	900938	Cover
16	1	900943	Cover
17	4	102688B06	SHCS #10-32 X 7/8
18	4	102688B02	SHCS #10-32 X 3/8
19	4	102637B06	FHCS 10-32 X 1
20	20	102634B02	FHCS 6-32NC X 0.38

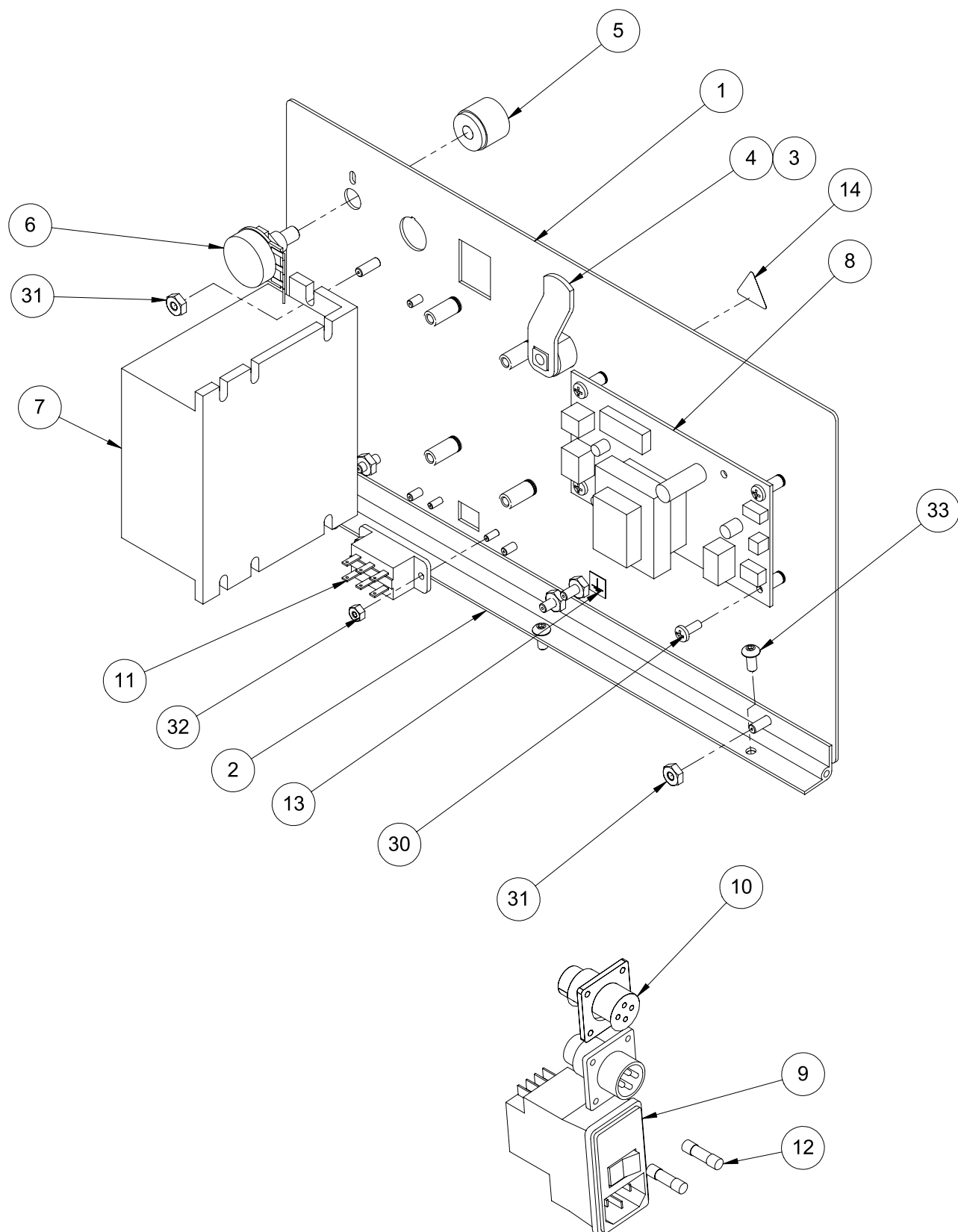
**BACK PANEL ASSEMBLY (115V, CE)**  
**Assembly # 311-0177**



**BACK PANEL ASSEMBLY (115V, CE)**  
**Assembly # 311-0177**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745058	PANEL, BACK
2	1	51745059	HINGE
3	1	900769	Latch, Keyed
4	1	900770	Latch, Cam
5	1	44675030	KNOB, SPEED POT
6	1	10501137	SPEED POT ASM
7	1	44642025	BOARD, SCR DRIVE
8	1	44841015	PCB Circuit Board
9	1	44649034	MODULE, POWER ENTRY
10	1	611-0041	Harness Main Power w/ Filter
11	1	44642026	SWITCH, SELECTOR
12	2	53500558	Fuse, 5A 250V
13	1	900739	Label, Ground Earth
14	1	17451109	Assy, Cable Ext Run
15	1	84111011	Assy, Ext Run V710IJ
16	1	10501135	Assy, Wire Ground V710 IJ
17	1	10501136	Assy, Wire Ground V710
18	1	17451110	Assy, Ground Wire
19	1	611-0059	Harness, Control Board and Drive
20	2	53500254	Terminal, Female
21	1	84111008	Assy, Cable DC Motor Ext
22	1	611-0065	Harness, Inhibit V1000 115V
23	4	3402	Cable Tie Mount
24	6	435SO263	Cable Tie
25	1	611-0062	Elect. Schematic V1000 115V
26	1	51745091	Graphic Set, V1000
27	1	311-0152	Kit, Ext Run Relays w/solid st
29	1	53500002	Cord, Pwr 115 VAC IEC 3 PrgGnd
30	4	102760B05	SCREW PHILLIPS HEAD, #6-32 X 3/8
31	6	103333B07	KEP NUT #8-32
32	2	103333B05	KEP NUT #4-40
33	3	102706B02	BHCS #8-32 UNC X .38 LG

# **BACK PANEL ASSEMBLY (230V, CE)** **Assembly # 311-0181**

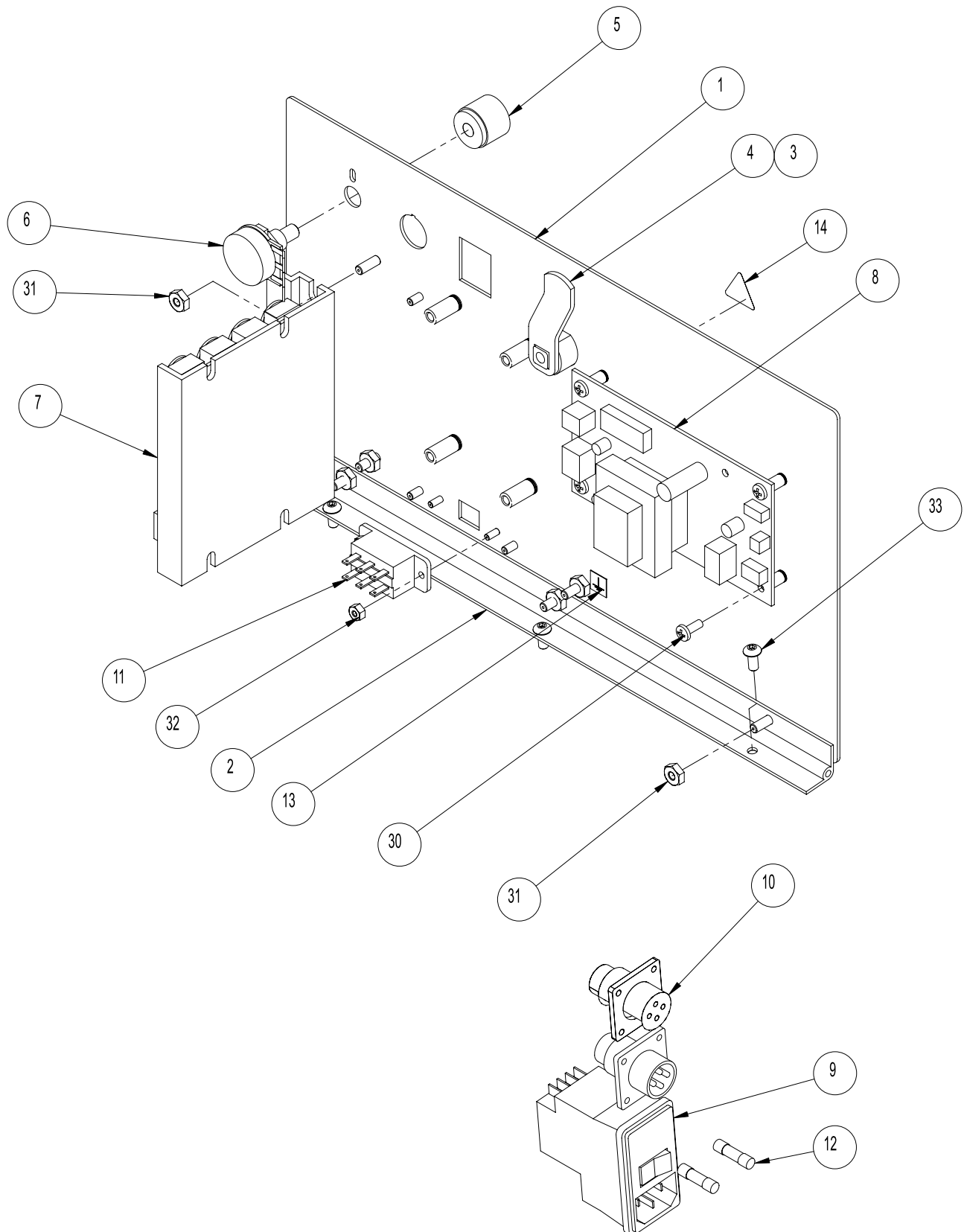




**BACK PANEL ASSEMBLY (230V, CE)**  
**Assembly # 311-0181**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745058	PANEL, BACK
2	1	51745059	HINGE
3	1	900769	Latch, Keyed
4	1	900770	Latch, Cam
5	1	44675030	KNOB, SPEED POT
6	1	611-0020	Speed Pot Assy
7	1	51745122	Board, KB Drive
8	1	51050171	BOARD, V710 IJ Cntl 230V
9	1	44649034	MODULE, POWER ENTRY
10	1	611-0041	Harness Main Power w/ Filter
11	1	44642026	SWITCH, SELECTOR
12	2	53500558	Fuse, 5A 250V
13	1	900739	Label, Ground Earth
14	1	900802	Lable, Electrical Shock
15	1	17451109	Assy, Cable Ext Run
16	1	84111011	Assy, Ext Run V710IJ
17	1	10501135	Assy, Wire Ground V710 IJ
18	1	10501136	Assy, Wire Ground V710
19	1	17451110	Assy, Ground Wire
20	1	611-0024	Harness, Cntrl Board and Drive
21	2	53500254	Terminal, Female
22	1	611-0025	DC Motor Extension Harness
23	2	611-0063	Harness, V1000 CE Inhibit
24	4	3402	Cable Tie Mount
25	6	435SO263	Cable Tie
26	1	611-0052	Elect. Schematic V1000 230V CE
27	1	51745091	Graphic Set, V1000
28	1	311-0152	Kit, Ext Run Relays w/ solid st
29	1	53500210	Cord, Power 230V
30	4	102760B05	SCREW PHILLIPS HEAD, #6-32 X 3/8
31	6	103333B07	KEP NUT #8-32
32	2	103333B05	KEP NUT #4-40
33	3	102706B02	BHCS #8-32 UNC X .38 LG

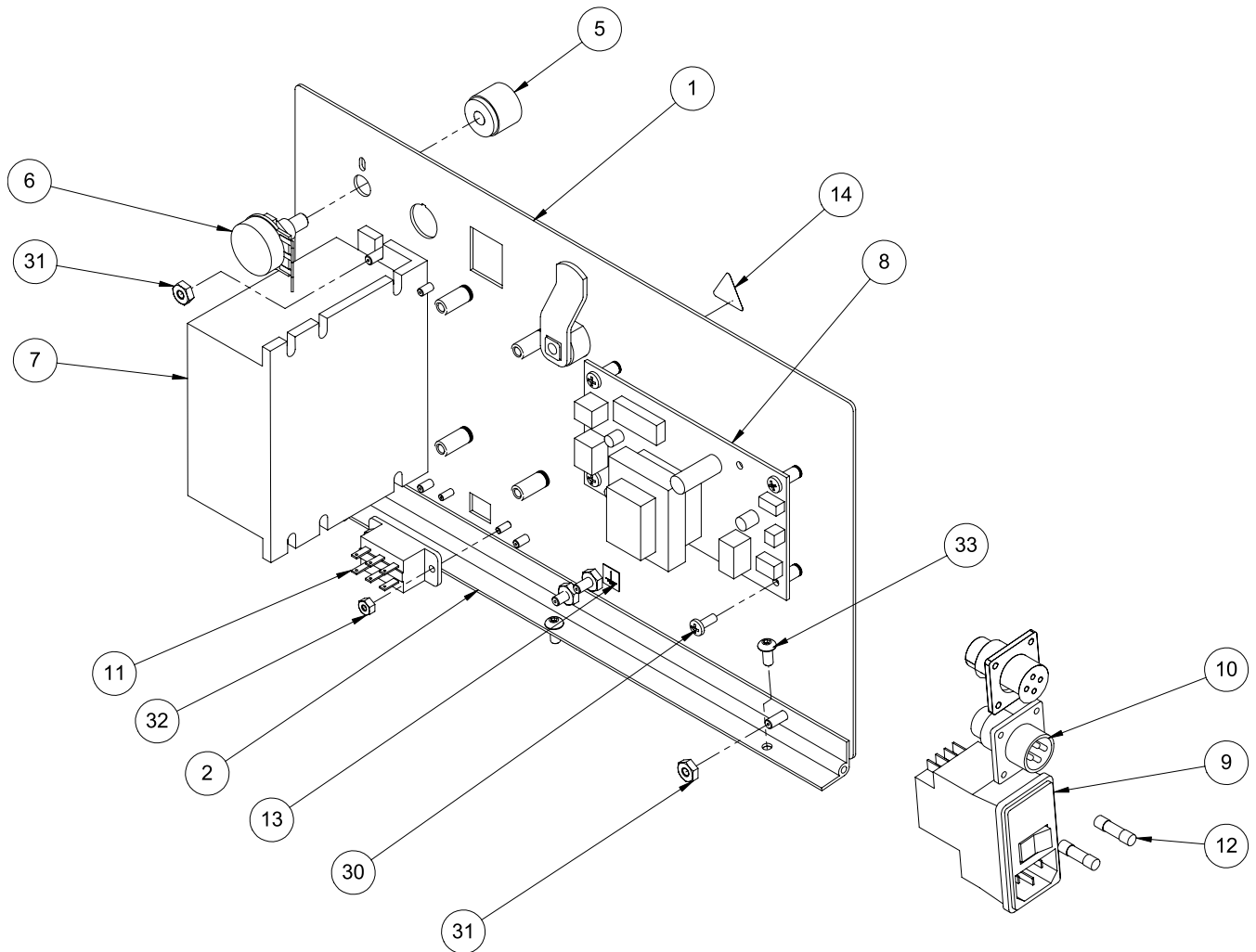
**BACK PANEL ASSEMBLY (115V)**  
**Assembly # 17451108**



**BACK PANEL ASSEMBLY (115V)****Assembly # 17451108**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745058	PANEL, BACK
2	1	51745059	HINGE
3	1	900769	Latch, Keyed
4	1	900770	Latch, Cam
5	1	44675030	KNOB, SPEED POT
6	1	10501137	SPEED POT ASM
7	1	44642025	BOARD, SCR DRIVE
8	1	44841015	PCB Circuit Board
9	1	44649034	MODULE, POWER ENTRY
10	1	611-0041	Harness Main Power w/ Filter
11	1	44642026	SWITCH, SELECTOR
12	2	53500558	Fuse, 5A 250V
13	1	900739	Label, Ground Earth
14	1	900802	Lable, Electrical Shock
15	1	17451109	Assy, Cable Ext Run
16	1	84111011	Assy, Ext Run V710IJ
17	1	10501135	Assy, Wire Ground V710 IJ
18	1	10501136	Assy, Wire Ground V710
19	1	17451110	Assy, Ground Wire
20	1	611-0059	Harness, Control Board and Drive
21	1	53500254	Terminal, Female
22	1	84111008	Assy, Cable DC Motor Ext
23	1	84111017	Assy, Harness SCR Enable
24	4	3402	Cable Tie Mount
25	6	435SO263	Cable Tie
26	1	611-0067	Wiring Diagram V1000 115V
27	1	51745091	Graphic Set, V1000
28	1	311-0090	Kit, Ext Run Relays w/solid st
29	1	53500002	Cord, Pwr 115 VAC IEC 3 PrgGnd
30	4	102760B05	SCREW PHILLIPS HEAD, #6-32 X 3/8
31	6	103333B07	KEP NUT #8-32
32	2	103333B05	KEP NUT #4-40
33	3	102706B02	BHCS #8-32 UNC X .38 LG

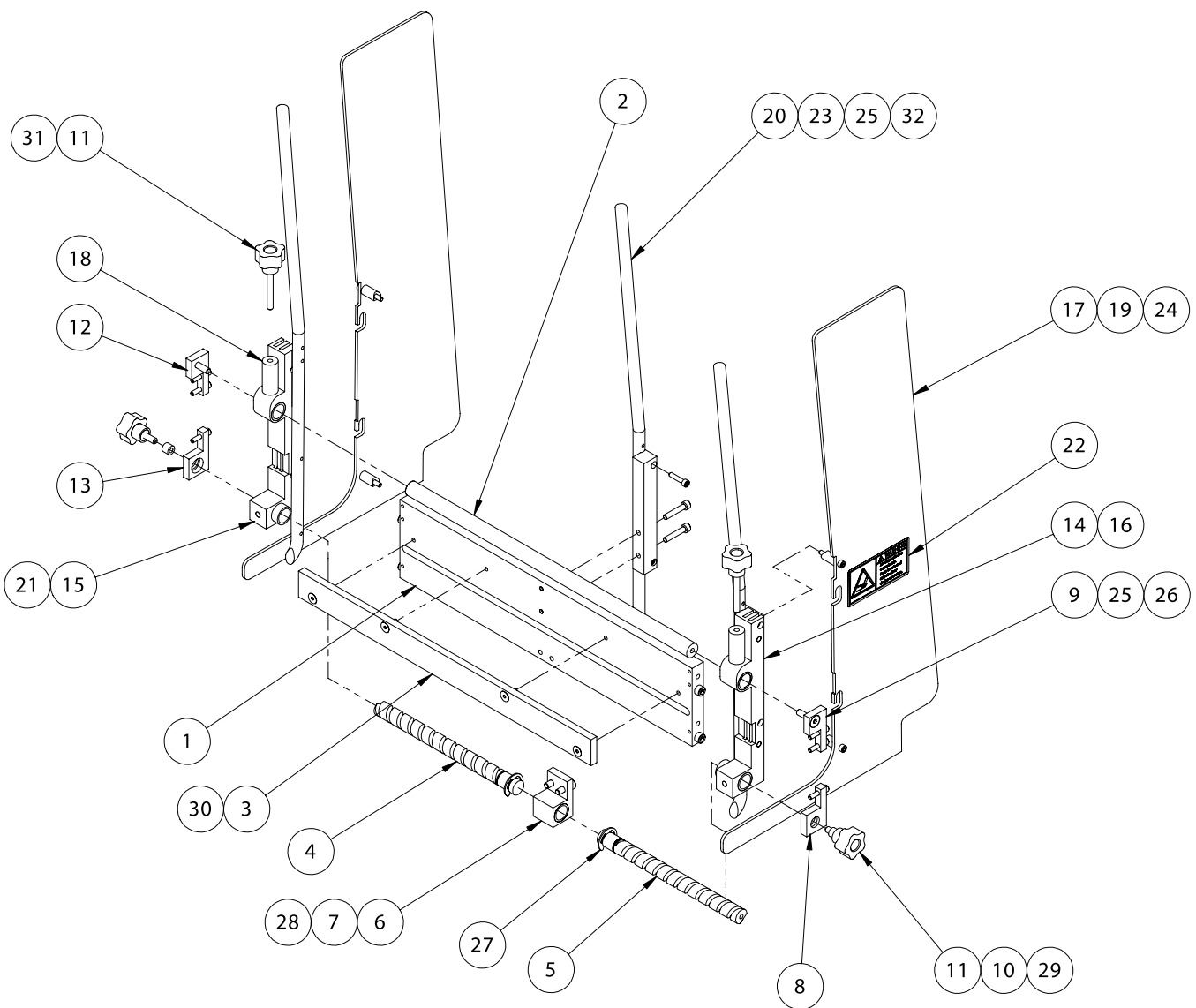
**BACK PANEL ASSEMBLY (230V)**  
**Assembly # 17451116**



**BACK PANEL ASSEMBLY (230V)**  
**Assembly # 17451116**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745058	PANEL, BACK
2	1	51745059	HINGE
3	1	900769	Latch, Keyed
4	1	900770	Latch, Cam
5	1	44675030	KNOB, SPEED POT
6	1	611-0020	Speed Pot Assy
7	1	51745122	Board, KB Drive
8	1	51050171	BOARD, V710 IJ Cntl 230V
9	1	44649034	MODULE, POWER ENTRY
10	1	611-0041	Harness Main Power w/ Filter
11	1	44642026	SWITCH, SELECTOR
12	2	53500558	Fuse, 5A 250V
13	1	900739	Label, Ground Earth
14	1	900802	Lable, Electrical Shock
15	1	17451109	Assy, Cable Ext Run
16	1	84111011	Assy, Ext Run V710IJ
17	1	10501135	Assy, Wire Ground V710 IJ
18	1	10501136	Assy, Wire Ground V710
19	1	17451110	Assy, Ground Wire
20	1	611-0024	Harness, Cntrl Board and Drive
21	1	53500254	Terminal, Female
22	1	611-0025	DC Motor Extension Harness
23	1	611-0019	Harness, V2000 Inhibit
24	4	3402	Cable Tie Mount
25	6	435SO263	Cable Tie
26	1	611-0068	Elect. Schematic V1000 230V
27	1	51745091	Graphic Set, V1000
28	1	311-0090	Kit, Ext Run Relays w/solid st
29	1	53522210	Assy, 230V Configured
30	4	102760B05	SCREW PHILLIPS HEAD, #6-32 X 3/8
31	6	103333B07	KEP NUT #8-32
32	2	103333B05	KEP NUT #4-40
33	3	102706B02	BHCS #8-32 UNC X .38 LG

**HOPPER ASSEMBLY**  
**Assembly # : 17451103**

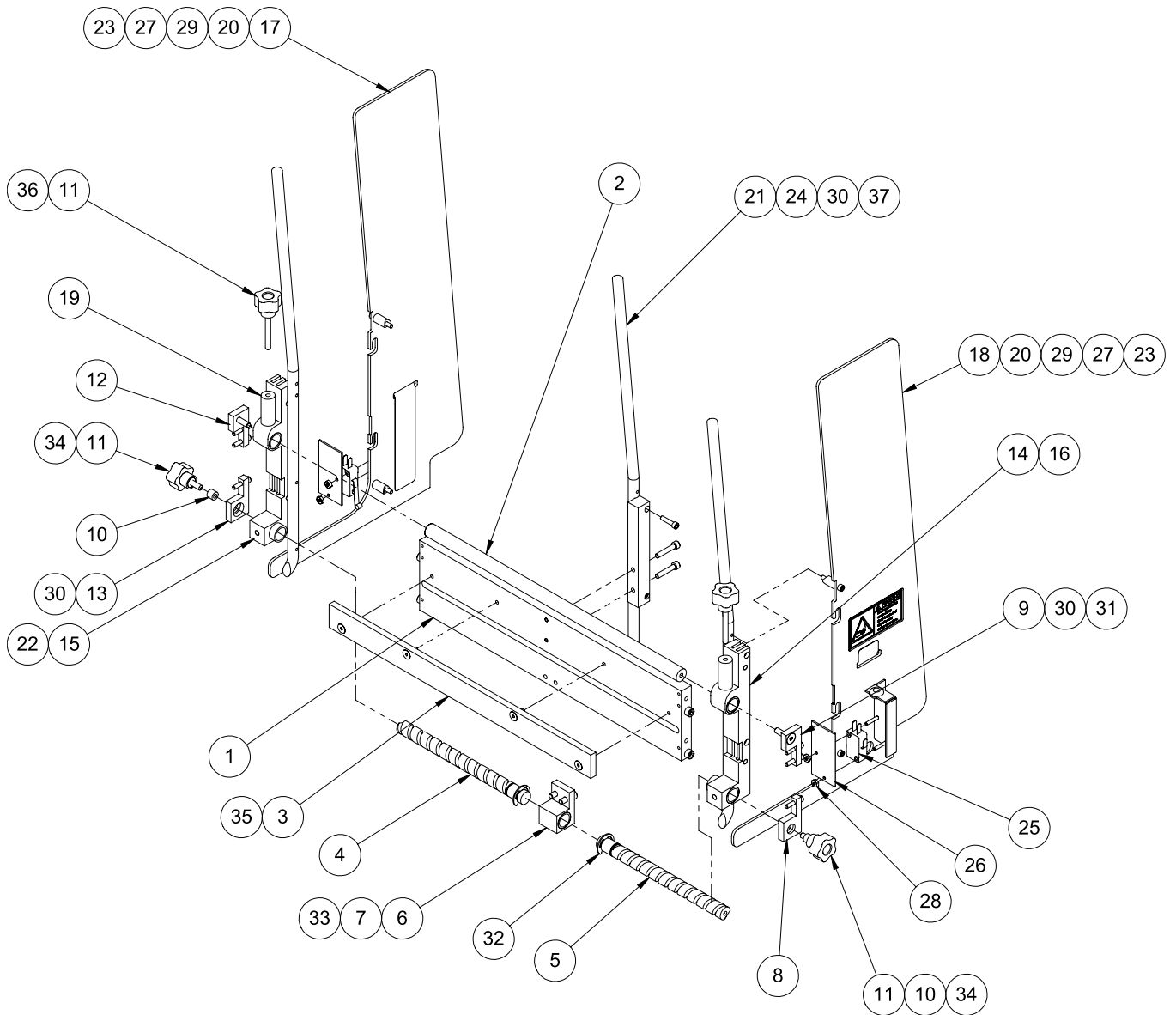


**HOPPER ASSEMBLY**  
**Assembly # : 17451103**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745015	PLATE, GATE
2	1	51745050	SHAFT UPPER SUPPORT
3	1	51745011	BAR, TRACK
4	1	51745039	SCREW, RH LEAD
5	1	51745040	SCREW, LH LEAD
6	1	51745047	SUPPORT, CENTER
7	1	51745078	OILITE BEARING
8	1	51745048	SUPPORT, RH
9	1	51745069	BLOCK UPPER
10	2	51745042	SPACER, LEAD SCREW
11	4	44963102	Knob, 5 Lobe 1dia 10-32
12	1	51745072	BLOCK, UPPER
13	1	51745056	SUPPORT, LH
14	1	51745049	BLOCK LH
15	1	51745046	BLOCK RH
16	4	900676	Pin, Dowel
17	2	51745025	SIDE GUIDES
18	2	51745074	STANDOFF SIDE
19	4	51745081	SIDE GUIDE
20	3	51745045	BAR, PREGATE
21	2	51745067	PIN, DOWEL
22	2	53500609	Lable, Warn Injury 2.7 x 1.4
23	1	51745063	MOUNT, CENTER
24	4	102683B06	SHCS #6-32NC X .88 LG.
25	8	102683B04	SHCS #6-32 X 5/8
26	2	102637B05	FHCS #10-32 X 3/4
27	2	104308B02	E-CLIP 1/2
28	6	102688B03	SHCS #10-32 X 1/2
29	2	102732B11	SET SCREW, #10-32 X 1
30	4	102635B03	FHCS #8-32 X 1/2
31	2	102732B15	SET SCREW, #10-32 X 2
32	2	102934B06	SHCS #8-32 X 7/8

# **HOPPER ASSEMBLY (115V)**

## **Assembly # 311-0172**



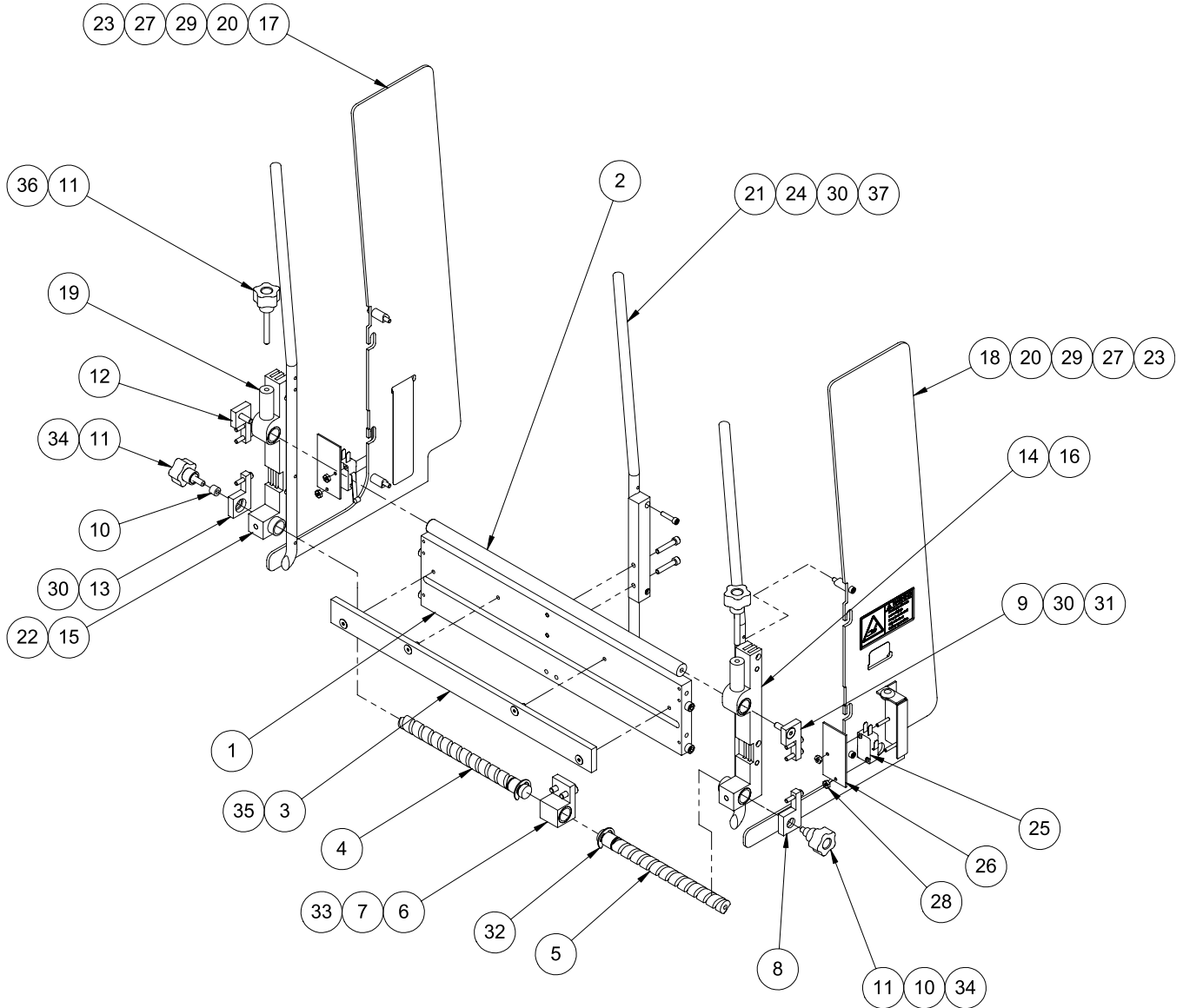


## **HOPPER ASSEMBLY (115V)**

### **Assembly # 311-0172**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745015	PLATE, GATE
2	1	51745050	SHAFT UPPER SUPPORT
3	1	51745011	BAR, TRACK
4	1	51745039	SCREW, RH LEAD
5	1	51745040	SCREW, LH LEAD
6	1	51745047	SUPPORT, CENTER
7	1	51745078	OILITE BEARING
8	1	51745048	SUPPORT, RH
9	1	51745069	BLOCK UPPER
10	2	51745042	SPACER, LEAD SCREW
11	4	44963102	Knob, 5 Lobe 1dia 10-32
12	1	51745072	BLOCK, UPPER
13	1	51745056	SUPPORT, LH
14	1	51745049	BLOCK LH
15	1	51745046	BLOCK RH
16	4	900676	Pin, Dowel
17	1	311-0174	Assy, Side Guide RH
18	1	311-0175	Assy, Side Guide LH
19	2	51745074	STANDOFF SIDE
20	4	51745081	SIDE GUIDE
21	3	51745045	BAR, PREGATE
22	2	51745067	PIN, DOWEL
23	2	53500609	Lable, Warn Injury 2.7 x 1.4
24	1	51745063	MOUNT, CENTER
25	2	611-0064	Assy, Switch No Media
26	2	900613	PLATE, SENSOR MOUNT
27	2	1130	Gromet
28	4	103100B03	HEX NUT #4-40
29	4	102683B06	SHCS #6-32NC X .88 LG.
30	8	102683B04	SHCS #6-32 X 5/8
31	2	102637B05	FHCS #10-32 X 3/4
32	2	104308B02	E-CLIP 1/2
33	6	102688B03	SHCS #10-32 X 1/2
34	2	102732B11	SET SCREW, #10-32 X 1
35	4	102635B03	FHCS #8-32 X 1/2
36	2	102732B15	SET SCREW, #10-32 X 2
37	2	102934B06	SHCS #8-32 X 7/8

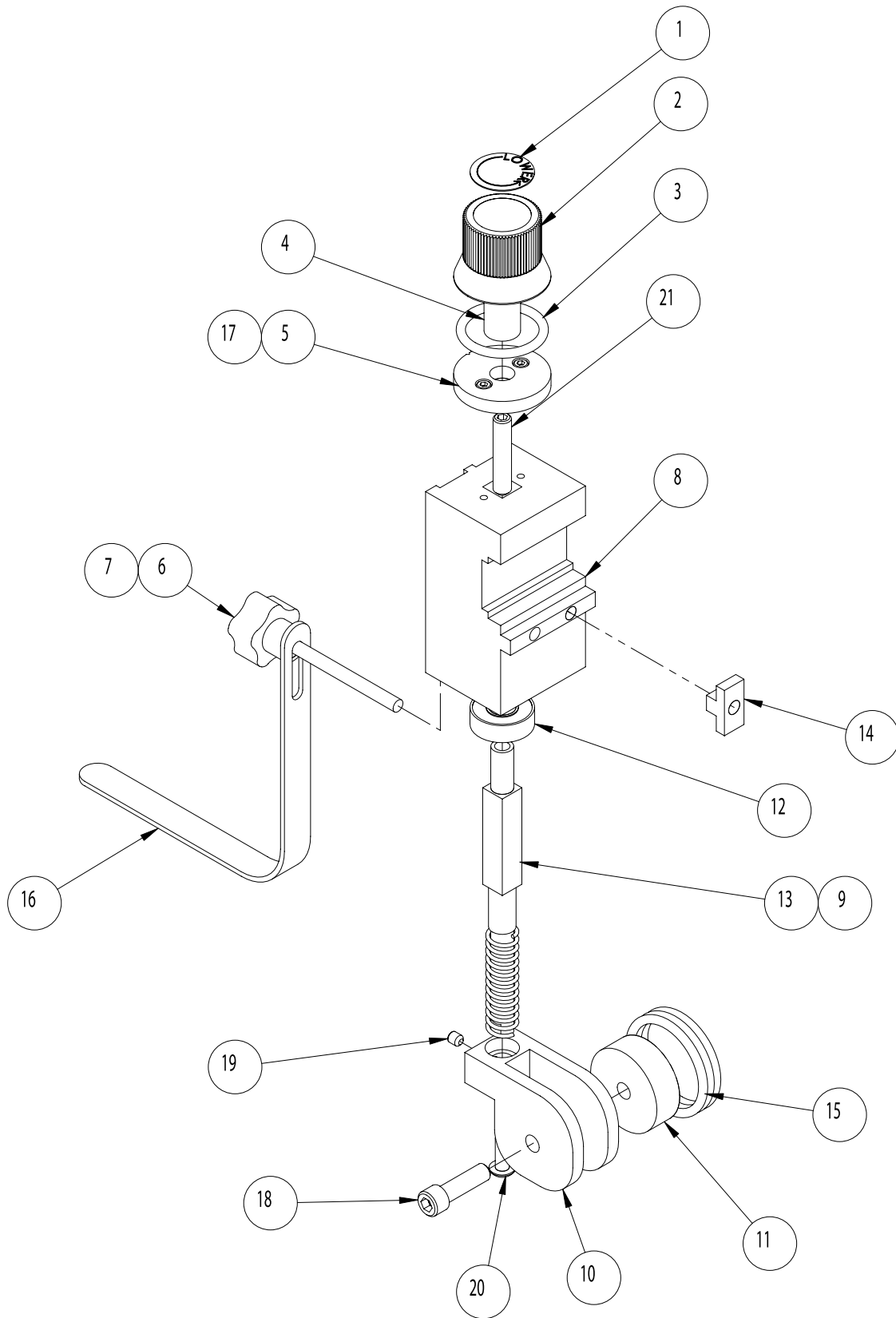
# **HOPPER ASSEMBLY (230V)** **Assembly # 311-0178**



**HOPPER ASSEMBLY (230V)**  
**Assembly # 311-0178**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
1	1	51745015	PLATE, GATE
2	1	51745050	SHAFT UPPER SUPPORT
3	1	51745011	BAR, TRACK
4	1	51745039	SCREW, RH LEAD
5	1	51745040	SCREW, LH LEAD
6	1	51745047	SUPPORT, CENTER
7	1	51745078	OILITE BEARING
8	1	51745048	SUPPORT, RH
9	1	51745069	BLOCK UPPER
10	2	51745042	SPACER, LEAD SCREW
11	4	44963102	Knob, 5 Lobe 1dia 10-32
12	1	51745072	BLOCK, UPPER
13	1	51745056	SUPPORT, LH
14	1	51745049	BLOCK LH
15	1	51745046	BLOCK RH
16	4	900676	Pin, Dowel
17	1	311-0174	Assy, Side Guide RH
18	1	311-0175	Assy, Side Guide LH
19	2	51745074	STANDOFF SIDE
20	4	51745081	SIDE GUIDE
21	3	51745045	BAR, PREGATE
22	2	51745067	PIN, DOWEL
23	2	53500609	Lable, Warn Injury 2.7 x 1.4
24	1	51745063	MOUNT, CENTER
25	2	611-0066	Assy, Switch No Media
26	2	900613	PLATE, SENSOR MOUNT
27	2	1130	Gromet
28	4	103100B03	HEX NUT #4-40
29	4	102683B06	SHCS #6-32NC X .88 LG.
30	8	102683B04	SHCS #6-32 X 5/8
31	2	102637B05	FHCS #10-32 X 3/4
32	2	104308B02	E-CLIP 1/2
33	6	102688B03	SHCS #10-32 X 1/2
34	2	102732B11	SET SCREW, #10-32 X 1
35	4	102635B03	FHCS #8-32 X 1/2
36	2	102732B15	SET SCREW, #10-32 X 2
37	2	102934B06	SHCS #8-32 X 7/8

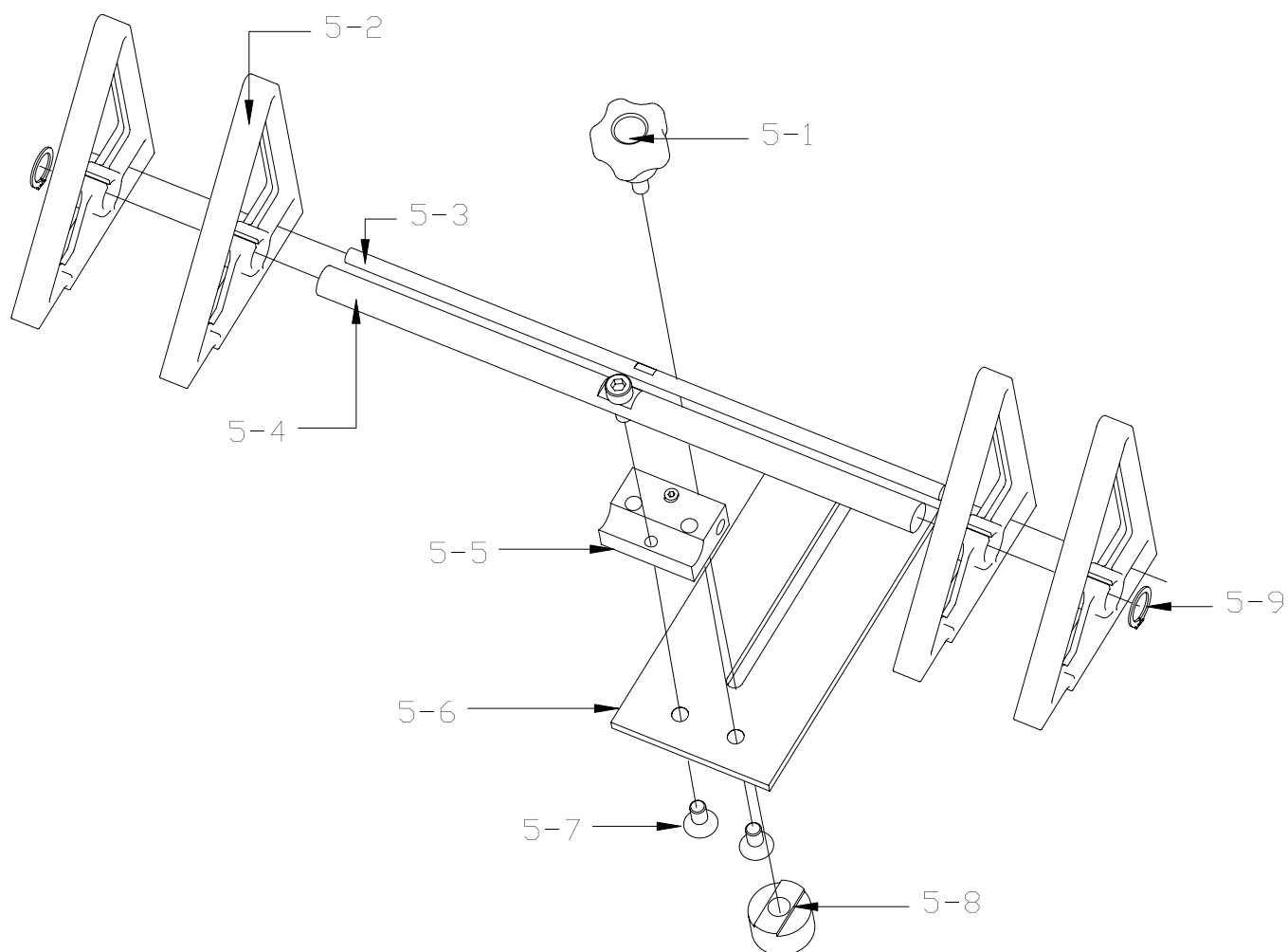
**GATE ASSEMBLY**  
**Assembly # 18051103**



**GATE ASSEMBLY**  
**Assembly # 18051103**

<b><u>ITEM</u></b>	<b><u>QTY.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>
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 1dia 10-32
7	1	51745033	ROD, THREADED
8	1	51745012	BLOCK, GATE SLEEVE
9	1	51745083	SPRING, GATE
10	1	51805015	MOUNT, GATE
11	1	51805014	ORING SPOOL
12	1	23500095	BEARING, R6
13	1	51745044	SHAFT GATE
14	1	51745020	NUT
15	3	23500089	O-RING, STANDARD GATE
16	1	51805038	KNOCK DOWN
17	2	102912B01	SHCS #5-40 X 1/4
18	1	102689B06	SHCS 1/4-20 X 7/8
19	1	102729B02	SET SCREW, #8-32 X 3/16
20	1	102708B03	BHCS #10-32 X 1/2
21	1	102733B12	SET, SCREW 1/4-28 X 1-1/4

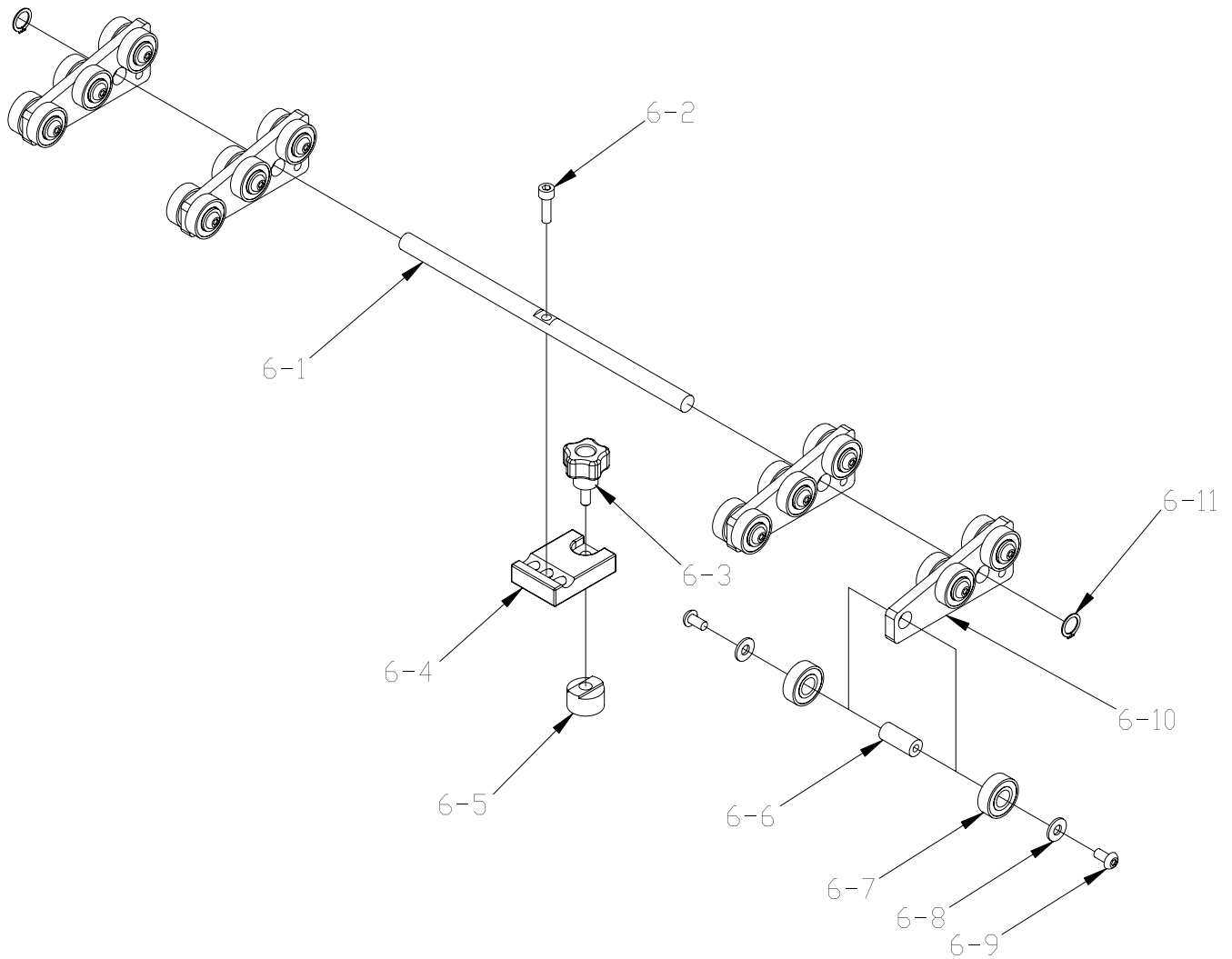
**WEDGE ASSEMBLY**  
**Assembly # 17451105**



**WEDGE ASSEMBLY**  
**Assembly # 17451105**

<b>Diagram Number</b>	<b>Qty</b>	<b>Description</b>	<b>Part Number</b>
<b>5-1</b>	1	Knob, Lobe	44963102
	1	Set Screw 10-32 X 1"	00002201
<b>5-2</b>	4	Wedge, Material Support	44759086
<b>5-3</b>	1	Shaft, Wedge Support	44759076
<b>5-4</b>	1	Shaft, Wedge Guide	44633018
	1	SHCS 10-32 X 1/2"	00002315
<b>5-5</b>	1	Block, Wedge	51745062
	1	Set Screw 8-32 X 1/8"	00002402
<b>5-6</b>	1	Plate, Wedge Base	51745008
<b>5-7</b>	2	FHSCS 10-32 X 3/8"	00002334
<b>5-8</b>	1	T-Nut, Round	44633016
<b>5-9</b>	2	Grip Ring, 3/8"	00001110

**LOW PROFILE WEDGE ASSEMBLY**  
**Assembly # 17451117**

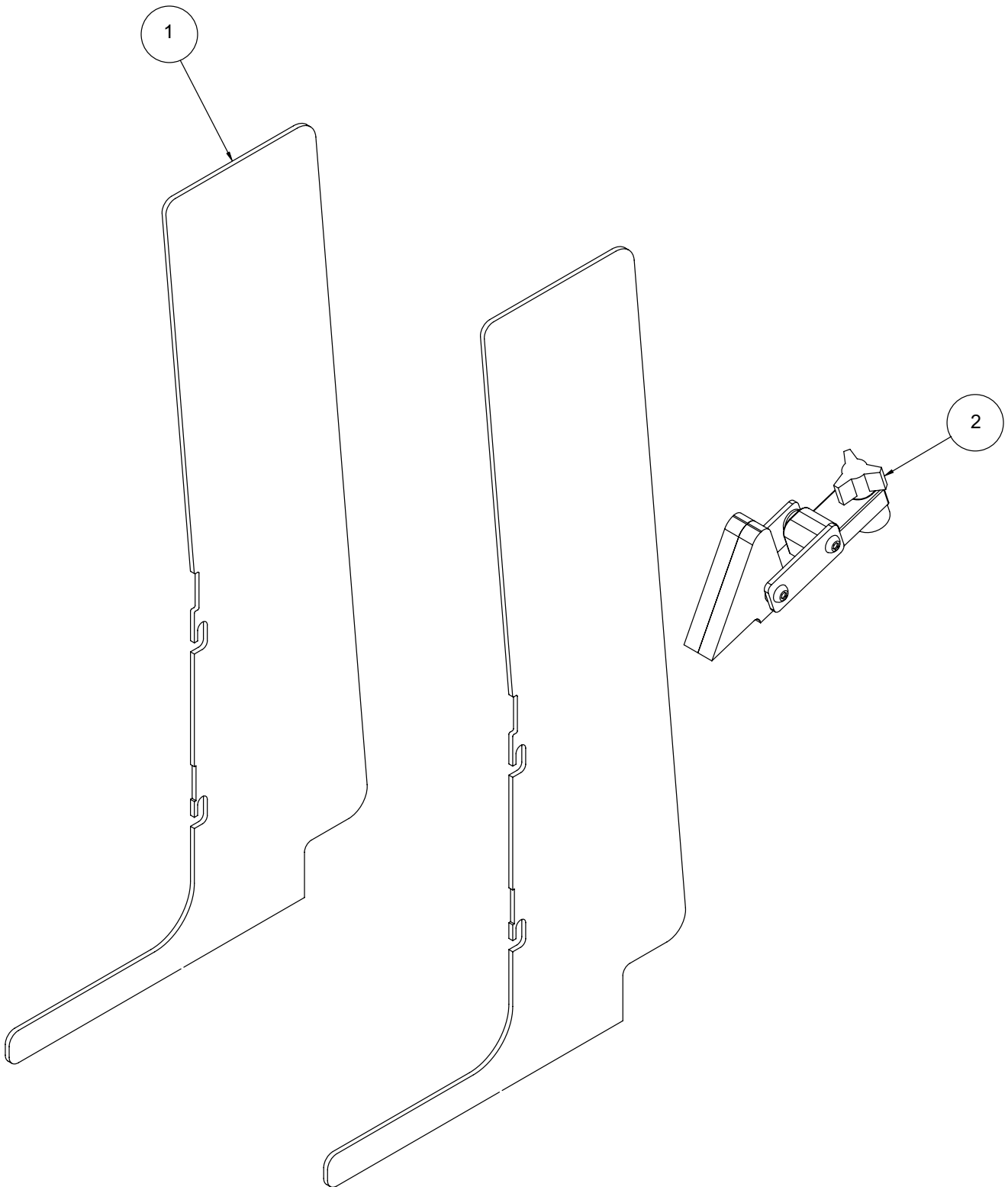




**LOW PROFILE WEDGE ASSEMBLY**  
**Assembly # 17451117**

<b>Diagram Number</b>	<b>Qty</b>	<b>Description</b>	<b>Part Number</b>
<b>6-1</b>	1	Shaft, Wedge Guide	44633018
<b>6-2</b>	1	SHCS 10-32 X 5/8" LG	00002320
<b>6-3</b>	1	Knob Lobe	44963102
	1	Set Screw 10-32 X1	00002201
<b>6-4</b>	1	Block, Wedge Mounting	44633014
<b>6-5</b>	1	T-Nut, Round	44633016
<b>6-6</b>	12	Shaft, Belt Tension	33500020
<b>6-7</b>	24	Bearing, R6	23500095
<b>6-8</b>	24	Washer, Flat #10	00002607
<b>6-9</b>	24	BHCS 10-32 X 3/8" LG	00002305
<b>6-10</b>	4	Wedge, Narrow Roller	43560050
<b>6-11</b>	2	Ring Grip 3/8" Waldes	00001110

**OPTIONAL SMALL PRODUCT KIT**  
**Assembly # : 311-0018**

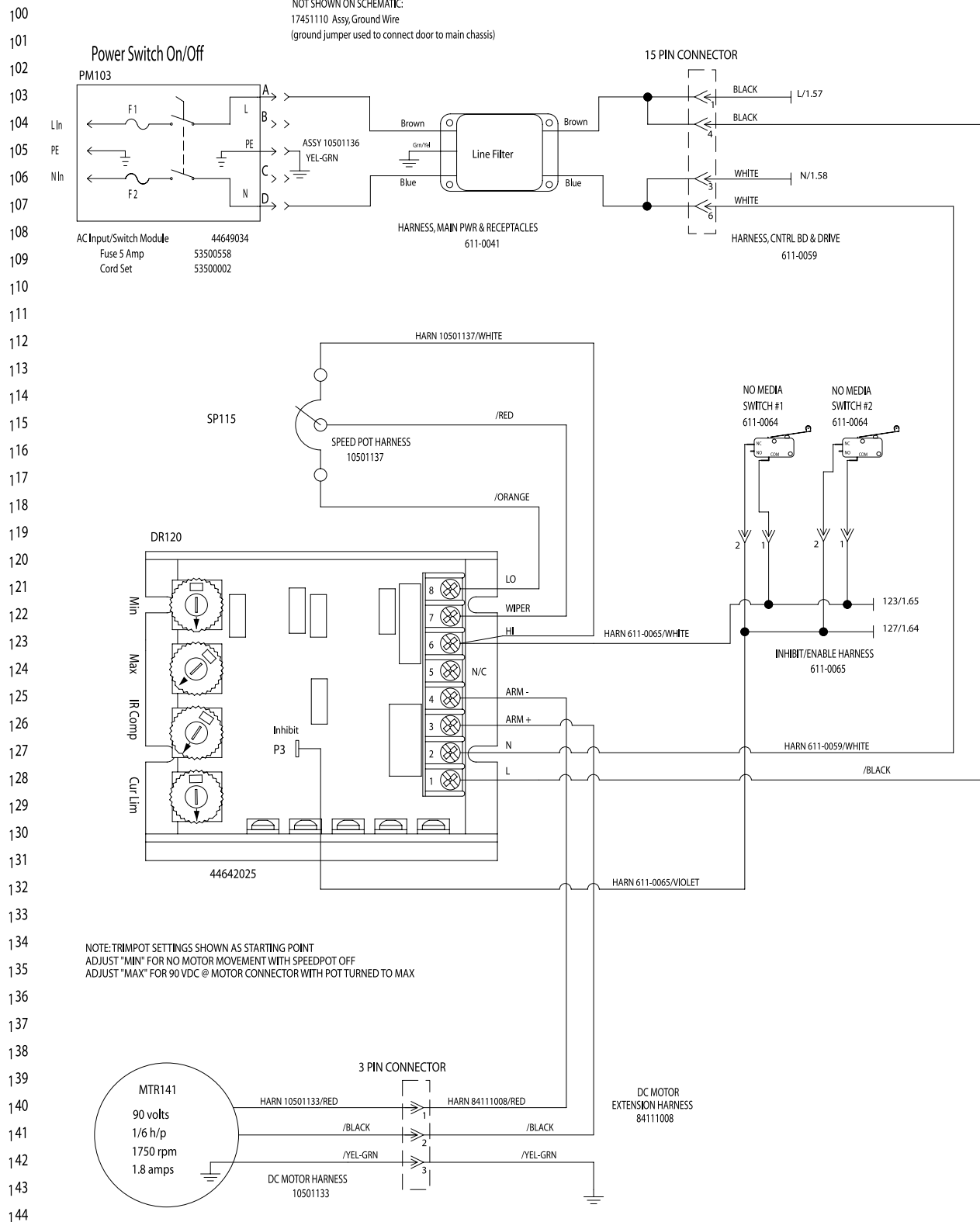


**OPTIONAL SMALL PRODUCT KIT**  
**Assembly # : 311-0018**

<b>Diagram Number</b>	<b>Qty</b>	<b>Description</b>	<b>Part Number</b>
<b>1</b>	2	Side Guide	51745025
<b>2</b>	1	Wedge, Narrow Extruded	63311212

# 8 Electrical Diagrams

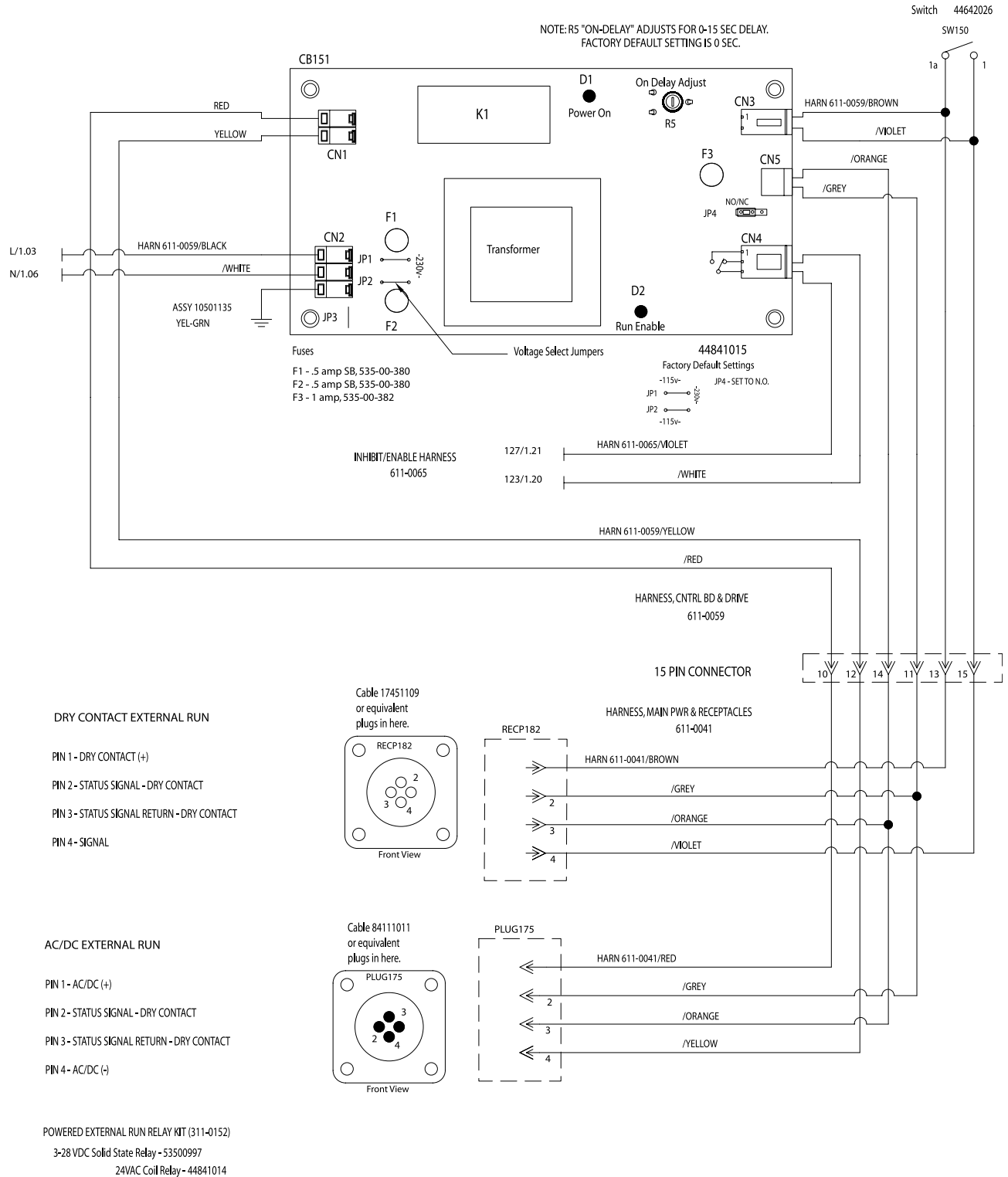
## 115 Volt Configuration



# 115 Volt Configuration (continued)

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

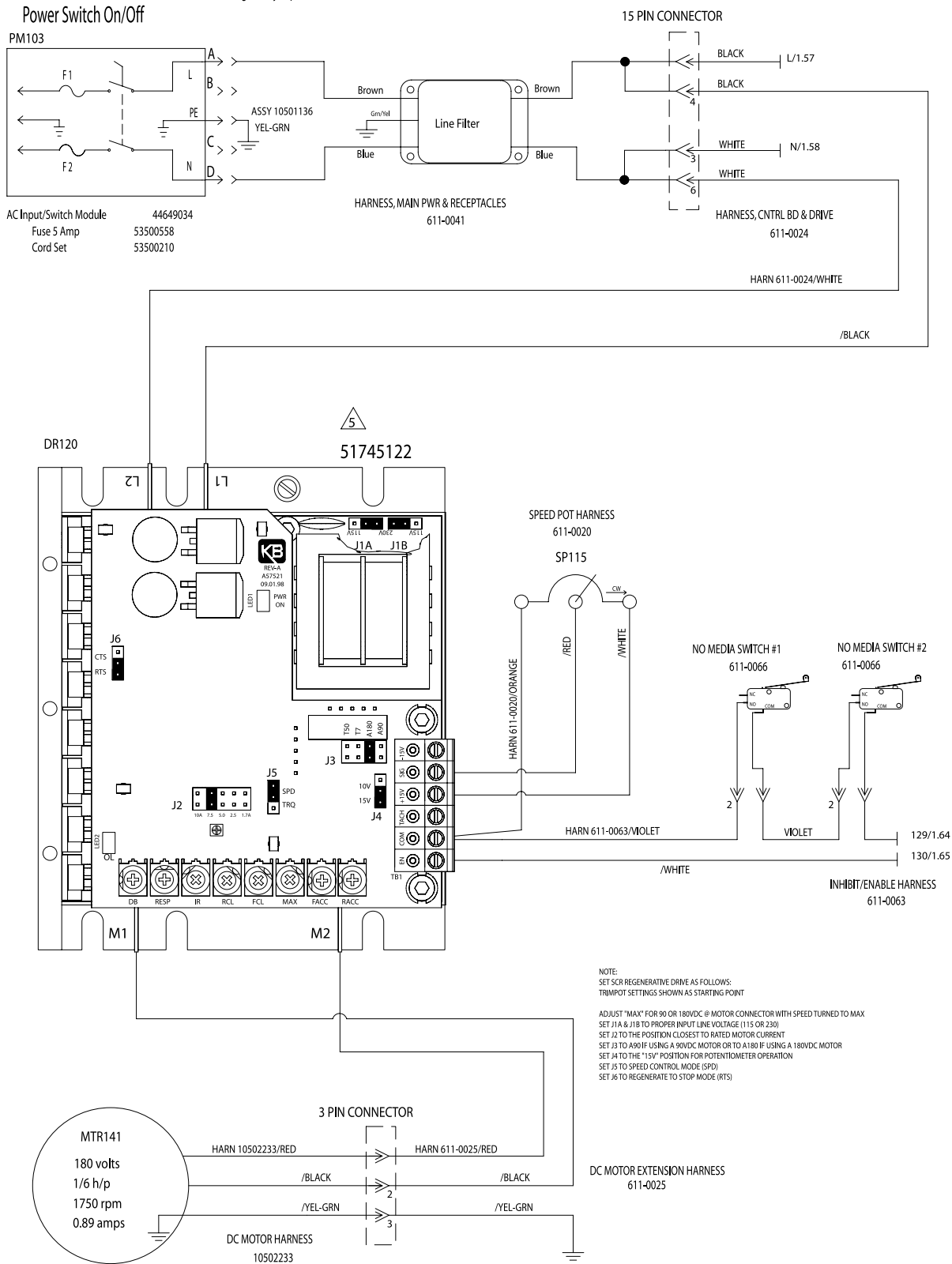
NOTE: R5 "ON-DELAY" ADJUSTS FOR 0-15 SEC DELAY.  
FACTORY DEFAULT SETTING IS 0 SEC.



## 230 Volt Configuration

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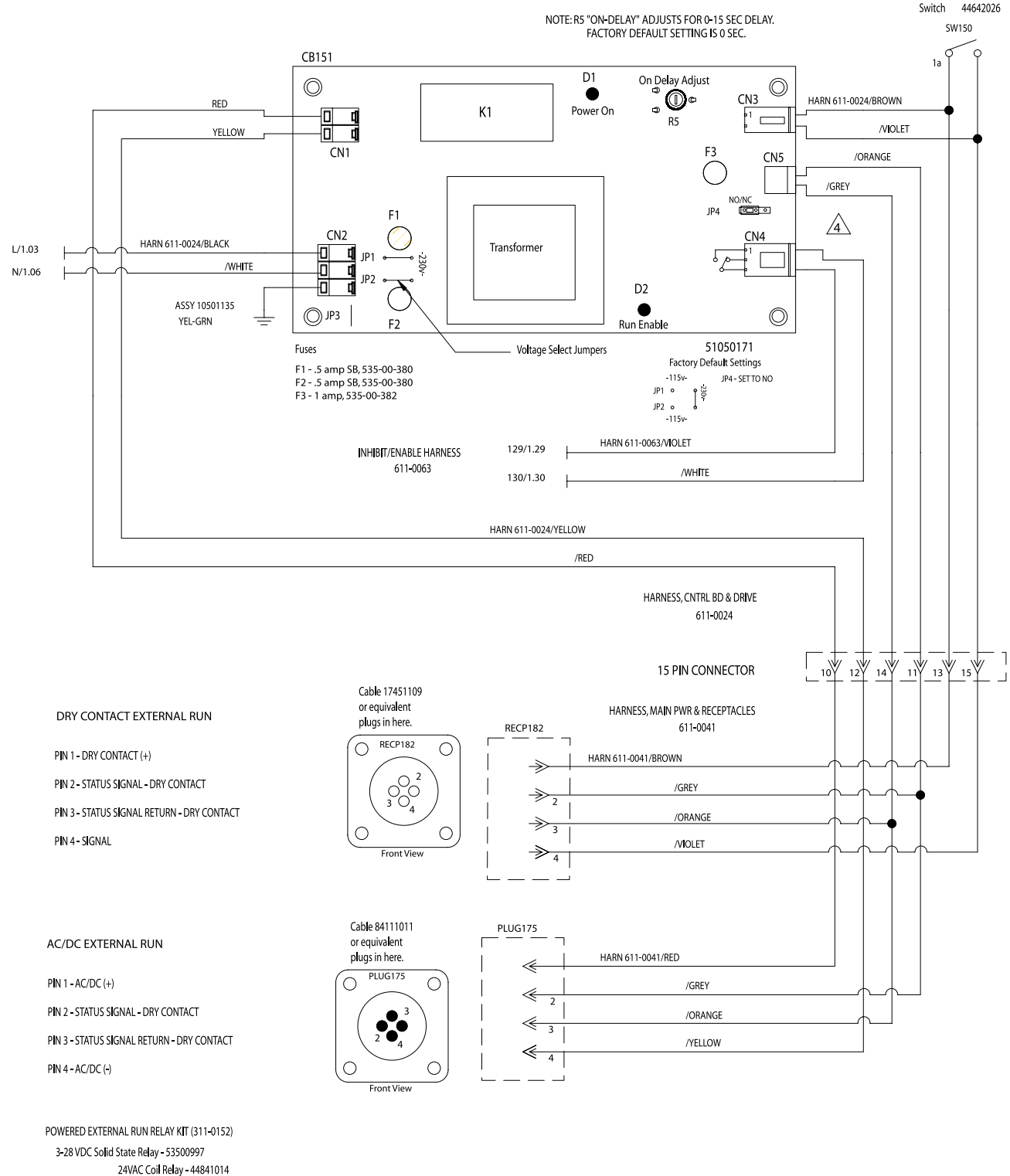
NOT SHOWN ON SCHEMATIC:  
17451110 Assy, Ground Wire  
(ground jumper used to connect door to main chassis)



# 230 Volt Configuration (continued)

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

NOTE: R5 "ON-DELAY" ADJUSTS FOR 0-15 SEC DELAY.  
FACTORY DEFAULT SETTING IS 0 SEC.











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